

**DRAFT**  
**Infrastructure Improvements Plan  
and Development Fee Report**

**Prepared for:**  
**City of Yuma North Service Area**  
**Yuma, Arizona**

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## **EXECUTIVE SUMMARY**

The City of Yuma, Arizona, contracted with TischlerBise to document land use assumptions, prepare the Infrastructure Improvements Plan (IIP), and update development fees within the City of Yuma North Service Area pursuant to Arizona Revised Statutes 9-436.05. Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality for necessary public services. The development fees must be based on an Infrastructure Improvements Plan and Land Use Assumptions. The IIP for each type of infrastructure is in the middle section of this document. The proposed development fees are displayed in the Development Fee Report in the next section.

Development fees are one-time payments used to construct system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure costs. Development fees may be used for infrastructure improvements or debt service for growth related infrastructure. In contrast to general taxes, development fees may not be used for operations, maintenance, replacement, or correcting existing deficiencies.

This update of Yuma's Infrastructure Improvements Plan and associated update to its development fees includes the following necessary public services:

1. Parks and Recreational Facilities
2. Police Facilities
3. Fire Facilities
4. General Government Facilities
5. Street Facilities

This plan also includes all necessary elements required to be in full compliance with SB 1525.

## **ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION**

Arizona Revised Statutes 9-463.05 (hereafter referred to as "development fee enabling legislation") governs how development fees are calculated for municipalities in Arizona. During the state legislative session of 2011, Senate Bill 1525 (SB 1525) was introduced which significantly amended the development fee enabling legislation. The changes included:

1. Amending existing development fee programs by January 1, 2012.
2. Abandoning existing development fee programs by August 1, 2014.
3. New development fee program structure revolving around a unified Land Use Assumptions document and Infrastructure Improvements Plan.
4. New adoption procedures for the Land Use Assumptions, Infrastructure Improvements Plan, and development fees.
5. New definitions, including "necessary public services" which defines what categories and types of infrastructure may be funded with development fees.
6. Time limitations in development fee collections and expenditures.
7. New requirements for credits, "grandfathering" rules, and refunds.

This update of Yuma's development fees will be in compliance with all of the requirements of SB 1525.

## **Necessary Public Services**

Under the new requirements of the development fee enabling legislation, development fees may be only used for construction, acquisition or expansion of public facilities that are necessary public services. “Necessary public service” means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality: water, wastewater, storm water, drainage, flood control, library, street, fire and police, and neighborhood parks and recreation. Additionally, a necessary public service includes any facility that was financed before June 1, 2011 and that meets the following requirements:

1. Development fees were pledged to repay debt service obligations related to the construction of the facility.
2. After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

## **Infrastructure Improvements Plan**

Development fees must be calculated pursuant to an Infrastructure Improvements Plan (hereafter referred to as the “IIP”). For each necessary public service that is the subject of a development fee, by law, the infrastructure improvements plan shall include the following seven elements:

1. A description of the existing necessary public services in the service area and the cost to update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed on this state, as applicable.
2. An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.
3. A description of all or the parts of the necessary public services or facility expansion and their costs necessitated by and attributable to development in the service area based on the approved Land Use Assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in the state, as applicable.
4. A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial.
5. The total number of projected service units necessitated by and attributable to new development in the service area based on the approved Land Use Assumptions and calculated pursuant to generally accepted engineering and planning criteria.
6. The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.
7. A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion

of utility fees attributable to development based on the approved Land Use Assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development.

### **Qualified Professionals**

The IIP must be developed by qualified professionals using general accepted engineering and planning practices. A qualified professional is defined as “a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person’s license, education, or experience.” TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure financing analyses, user fee/cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 800 development fee studies over the past 30 years for local governments across the United States.

### **Conceptual Development Fee Calculation**

In contrast to project-level improvements, development fees fund growth-related infrastructure that will benefit multiple development projects, or the entire service area (usually referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of service units for each unit of development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the development fee formula is to determine infrastructure improvement units per service unit, typically called level-of-service (LOS) standards. In keeping with the park example, a common LOS standard is improved park acres per thousand people. The third step in the development fee formula is the cost of various infrastructure units. To complete the park example, this part of the formula would establish a cost per acre for land acquisition and/ or park improvements.

### **Evaluation of Credits**

Regardless of the methodology, a consideration of “credits” is integral to the development of a legally defensible development fee. There are two types of “credits” that should be addressed in development fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit is integrated into the fee calculation, thus reducing the fee amount. The second is a site-specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.



## **DEVELOPMENT FEE REPORT**

### **METHODOLOGY**

Development fees for the necessary public services made necessary by new development must be based on the same level of service provided to existing development in the service area. There are three basic methodologies used to calculate development fees. They examine the past, present, and future status of infrastructure. The objective of evaluating these different methodologies is to determine the best measure of the demand created by new development for additional infrastructure capacity.

There are three general methods for calculating development fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating development fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss basic methods for calculating development fees and how those methods can be applied.

- **Cost Recovery** (past improvements) - The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.
- **Incremental Expansion** (concurrent improvements) - The incremental expansion method documents current level-of-service (LOS) standards for each type of public facility, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.
- **Plan-Based** (future improvements) - The plan-based method allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two basic options for determining the cost per demand unit: (1) total cost of a public facility can be divided by total demand units (average cost), or (2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

## UPDATED DEVELOPMENT FEES

Figure 1 summarizes service areas, methodology, and infrastructure cost components for each development fee. Because Yuma plans to provide a uniform level of service for all types of infrastructure included in this infrastructure improvements plan, the service area for all fee components is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

**Figure 1: Proposed Development Fee Service Areas, Methods, and Cost Components**

<i>Fee Type</i>	<i>Service Area</i>	<i>Incremental Expansion</i>	<i>Plan-Based</i>	<i>Cost Recovery</i>	<i>Cost Allocation</i>
<i>Parks and Recreation</i>	City of Yuma North Service Area	Regional & Community Park Improvements, Neighborhood Park Improvements, Bike Paths	Development Fee Study	N/A	Peak Population
<i>Police</i>	City of Yuma North Service Area	Facilities, Vehicles, Equipment, Fleet Services	Development Fee Study	N/A	Peak Population, Nonresidential Trips
<i>Fire</i>	City of Yuma North Service Area	Facilities, Apparatus, Ambulances, Fleet Services	Development Fee Study	N/A	Peak Population, Jobs
<i>General Government</i>	City of Yuma North Service Area	N/A	Development Fee Study	City Hall	Peak Population, Jobs
<i>Street</i>	City of Yuma North Service Area	Arterials, Intersections, Bike Lanes	Development Fee Study, Bridges	N/A	Vehicle Miles of Travel

## PROPOSED DEVELOPMENT FEES

Development fees for residential development will be assessed per dwelling unit, based on the type of unit. Nonresidential development fees will be assessed per square foot of floor area, according to four general types of development, or per room for hotels. Fees in Figure 2 represent the maximum allowable fees – development fees fund 100 percent of growth-related infrastructure.

Yuma may adopt fees that are less than the amounts shown; however, a reduction in development fee revenue will necessitate an increase in other revenues, a decrease in planned capital improvements and/or a decrease in Yuma's LOS standards. All costs in the development fee study are in current dollars with no assumed inflation rate over time. If cost estimates change significantly over time, development fees should be recalibrated.

**Figure 2: Proposed Development Fees**

***Residential (per unit)***

<i>Type</i>	<i>Parks and Recreation</i>	<i>Police</i>	<i>Fire</i>	<i>General Government</i>	<i>Street</i>	<i>Proposed Fee</i>
Single-Family	\$1,463	\$412	\$384	\$152	\$1,945	<b>\$4,356</b>
Multi-Family	\$1,019	\$287	\$268	\$106	\$1,462	<b>\$3,142</b>
All Other Types	\$850	\$239	\$223	\$88	\$1,112	<b>\$2,512</b>

***Nonresidential (per square foot)***

<i>Type</i>	<i>Parks and Recreation</i>	<i>Police</i>	<i>Fire</i>	<i>General Government</i>	<i>Street</i>	<i>Proposed Fee</i>
Commercial / Retail	\$0	\$0.63	\$0.68	\$0.08	\$2.83	<b>\$4.22</b>
Office / Institutional	\$0	\$0.25	\$1.13	\$0.14	\$1.22	<b>\$2.74</b>
Industrial	\$0	\$0.16	\$0.79	\$0.10	\$0.77	<b>\$1.82</b>
Hotel (per room)	\$0	\$126	\$150	\$18	\$627	<b>\$921</b>

## CURRENT DEVELOPMENT FEES

Yuma's current development fees are displayed below in Figure 3.

**Figure 3: Current Development Fees**

### *Residential (per unit)*

Type	Parks and Recreation	Police	Fire	General Government	Street	Current Fee
Single Family	\$1,011	\$506	\$339	\$20	\$696	\$2,572
Multi-Family	\$797	\$399	\$267	\$15	\$479	\$1,957
All Other Types	\$612	\$306	\$205	\$12	\$363	\$1,498

### *Nonresidential (per square foot)*

Type	Parks and Recreation	Police	Fire	General Government	Street	Current Fee
Commercial/Retail	\$0.00	\$0.95	\$0.15	\$0.01	\$0.80	\$1.92
Office/Institutional	\$0.00	\$0.47	\$0.26	\$0.02	\$0.44	\$1.18
Light Industrial	\$0.00	\$0.30	\$0.17	\$0.02	\$0.28	\$0.76
Hotel (per room)	\$0	\$239	\$33	\$3	\$223	\$498

## DIFFERENCE BETWEEN PROPOSED AND CURRENT DEVELOPMENT FEES

The differences between the proposed and current development fees are displayed below in Figure 4.

**Figure 4: Difference Between Proposed and Current Development Fees**

### *Residential (per unit)*

Type	Parks and Recreation	Police	Fire	General Government	Street	Total	% Change
Single-Family	\$452	(\$94)	\$45	\$132	\$1,249	\$1,784	69%
Multi-Family	\$222	(\$112)	\$1	\$91	\$983	\$1,185	61%
All Other Types	\$238	(\$67)	\$18	\$76	\$749	\$1,014	68%

### *Nonresidential (per square foot)*

Type	Parks and Recreation	Police	Fire	General Government	Street	Total	% Change
Commercial / Retail	\$0.00	(\$0.32)	\$0.53	\$0.07	\$2.03	\$2.30	120%
Office / Institutional	\$0.00	(\$0.22)	\$0.87	\$0.12	\$0.78	\$1.56	131%
Industrial	\$0.00	(\$0.14)	\$0.62	\$0.09	\$0.49	\$1.06	140%
Hotel (per room)	\$0	(\$113)	\$117	\$15	\$404	\$423	85%

## **PARKS AND RECREATION FACILITIES IIP**

ARS 9-463.05 (T)(7)(g) defines the facilities and assets which can be included in the Parks and Recreational Facilities IIP:

*“Neighborhood parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development. Park and recreational facilities do not include vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools.”*

Parks and recreation development fees include regional and community park improvements, neighborhood park improvements, bike paths, and the cost of professional services for preparing the parks and recreation facilities IIP and development fees. Park improvements do not include the cost of land; however, Yuma’s inventory of undeveloped regional and community park acreage is sufficient for development of park improvements identified in this report. Yuma expects developers to provide land for stormwater detention, which is jointly used for neighborhood parks, so the purchase of neighborhood park land is excluded from the calculation of park fees.

### **Service Area**

The service area for all parks and recreation fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

## **ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES**

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ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

## Regional and Community Park Improvements – Incremental Expansion

To provide capacity for new development throughout the city, Yuma plans to maintain its current level of service for developed (improved) regional and community parks. This component of the parks and recreation development fee will be used to maintain the 2018 level of service.

Yuma’s 2018 regional and community parks inventory, shown in Figure 5, includes 270.1 developed acres serving a projected peak population of 115,208. The definition of necessary public services defined in the Arizona Revised Statutes excludes wetlands and includes “parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development.” The developed acres total for West Wetlands Park excludes the portion of the park that includes wetlands. Although West Wetlands Park and the PAAC include more than 30 acres, their unique characteristics and amenities provide a direct benefit to development; therefore, total acreage—excluding wetlands—is included for both parks.

**Figure 5: Regional and Community Parks Inventory**

<i>Regional &amp; Community Parks</i>	<i>Developed Acres</i>
<b>James P. Deyo Regional Park</b>	
Caballero Park	27.0
Friendship Park	3.0
Ray Kroc Athletic Complex	25.0
<b>Riverfront Regional Park</b>	
West Wetlands Park	51.7
Gateway Park	13.4
Riverside Park	1.9
Colorado River Levee Linear Park	12.2
<b>Carver Park Complex</b>	
Sanguinetti Athletic	5.0
Carver Park	7.0
<b>Joe Henry Park Complex</b>	
Joe Henry Memorial Park	11.0
Joe Henry Athletic	5.0
<b>Kennedy Park Complex</b>	
Kennedy Memorial Park	18.0
Keegan Athletic	4.0
<b>PAAC</b>	44.8
<b>Smucker Memorial Park</b>	22.0
<b>Yuma Valley Park</b>	19.1
<b>TOTAL</b>	<b>270.1</b>

## Level of Service

Based on the 2018 inventory of developed regional and community park acreage and the 2018 peak population, the level of service for regional and community parks is 2.345 developed acres per 1,000 persons (270.1 acres / (115,208 peak population / 1,000)). Cost estimates for regional and community park improvements, shown below in Figure 6, total \$29.94 million and include 183.6 acres with an average cost of \$163,100 per developed acre (\$29.94 million / 183.6 acres). As discussed above, park improvement costs are allocated 100 percent to residential development.

**Figure 6: Cost Allocation for Regional and Community Parks**

### *Allocation Factors for Regional & Community Parks*

2018 Peak Population	115,208
Existing Developed Acres	270.1

### *Level-of-Service (LOS) Standards*

<b>LOS: Developed Acres per 1,000 Persons</b>	<b>2.345</b>
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### *Cost Basis from Planned Projects*

<i>Project*</i>	<i>Acres*</i>	<i>Cost per Acre</i>	<i>Total Cost*</i>
West Wetlands Park	67.0	\$31,045	\$2,080,000
Riverside Park	7.7	\$158,031	\$1,220,000
PAAC (Phase 1)	44.8	\$316,964	\$14,200,000
PAAC (Phase 2)	4.2	\$316,667	\$1,330,000
East Wetlands Park	3.8	\$221,053	\$840,000
Smucker Memorial Park	2.5	\$380,000	\$950,000
Yuma Valley Park (Phase 2)	0.9	\$1,077,778	\$970,000
South Mesa Community Park	25.6	\$159,969	\$4,100,000
North Mesa Community Park	27.0	\$157,407	\$4,250,000
	183.6	\$163,100	\$29,940,000

### *Cost Allocation*

<b>Average Cost per Acre</b>	<b>\$163,100</b>
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\*Source: Parks & Recreation Department, City of Yuma.

## Neighborhood Park Improvements – Incremental Expansion

Parks development fees also include a cost component for neighborhood park improvements. Neighborhood park improvements are allocated on a per acre basis. As shown in Figure 7, the base year inventory of neighborhood parks includes 71.7 developed acres.

**Figure 7: 2018 Neighborhood Parks Inventory and Cost Allocation**

<i>Neighborhood Parks</i>	<i>Developed Acres</i>
Barkley Ranch Park	3.1
Desert Ridge Park	3.0
Joe Henry Optimist Park	1.5
Kiwanis Park	15.0
Las Casitas Park	2.5
Marcus Park	2.0
Netwest Park	3.5
Ocotillo Park	4.9
Parkway Place Park	2.3
Ponderosa Park	3.6
Saguaro Park	4.8
Sanguinetti Memorial Park	5.0
Sunrise Optimist Park	6.0
Terraces Park	3.0
Victoria Meadows Park	5.5
Winsor Rotary Park	6.0
TOTAL	71.7

## Level of Service

Based on the 2018 inventory of developed neighborhood park acreage, and the 2018 peak population, the level of service for neighborhood parks is 0.622 developed acres per 1,000 persons (71.7 acres / (115,208 / 1,000)). Cost estimates for neighborhood park improvements, shown above in Figure 8, average \$40,000 per developed acre and exclude the cost of land. Yuma expects developers to provide land for stormwater detention, which is jointly used for neighborhood parks, so the purchase of land for neighborhood parks is excluded from the calculation of park fees. Therefore, there is no need to credit developers for donated land for neighborhood parks. Residential development assumes 100 percent of costs for neighborhood park improvements.



**Figure 8: Cost Allocation for Neighborhood Parks**

***Allocation Factors for Neighborhood Parks***

2018 Peak Population	115,208
Existing Developed Acres	71.7

***Level-of-Service (LOS) Standards***

<b>LOS: Developed Acres per 1,000 Persons</b>	<b>0.622</b>
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***Cost Allocation***

<b>Average Cost per Acre*</b>	<b>\$40,000</b>
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\*Source: Parks & Recreation Department, City of Yuma.

**Bike Paths – Incremental Expansion**

Parks and recreation development fees also include a cost component for bike paths. Yuma’s existing inventory of bike paths is 15.2 miles and does not include bike lanes found within a street right-of-way.

**Level of Service**

Based on the 2018 inventory of bike paths and the 2018 peak population, the level of service for bike paths is 0.132 miles per 1,000 persons (15.2 acres / (115,208 / 1,000)). Cost estimates for bike paths average \$475,000 per mile with 100 percent of costs allocated to residential development.

**Figure P5: Cost Allocation for Bike Paths**

***Allocation Factors for Bike Paths***

2018 Peak Population	115,208
Existing Miles of Bike Paths	15.2

***Level-of-Service (LOS) Standards***

<b>LOS: Miles per 1,000 Persons</b>	<b>0.1320</b>
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***Cost Basis from Planned Projects***

<i>Eligible Projects</i>	<i>Miles</i>	<i>Total Cost*</i>
Pacific Avenue - 12th Street to Levee	0.8	\$356,250
Thacker Lateral - W Main Canal to 32nd St	4.0	\$1,900,000
TOTAL	4.8	\$2,256,250

***Cost Allocation***

<b>Average Cost Per Mile</b>	<b>\$475,000</b>
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\*Yuma Engineering Department.

**Development Fee Study – Plan Based**

The cost to prepare the Parks and Recreation IIP and development fees totals \$17,800. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential development from the *Land Use Assumptions*, the cost per person is \$2.68.

**Figure 9: IIP and Development Fee Report**

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>2018</i>	<i>2023</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks and Recreation	\$17,800	Residential	100%	Peak Population	115,208	121,848	6,640	\$2.68
Police	\$13,350	Residential	61%	Peak Population	115,208	121,848	6,640	\$1.23
		Nonresidential	39%	Nonres. Trips	217,827	235,828	18,001	\$0.29
Fire	\$13,350	Residential	45%	Peak Population	115,208	121,848	6,640	\$0.90
		Nonresidential	55%	Jobs	51,027	55,241	4,214	\$1.74
General Government	\$8,900	Residential	73%	Peak Population	115,208	121,848	6,640	\$0.98
		Nonresidential	27%	Jobs	51,027	55,241	4,214	\$0.57
Streets	\$35,600	Residential Nonresidential	100%	VMT	660,282	707,186	46,905	\$0.76
TOTAL \$89,000								

### RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial.”*

Figure 10 displays the level of service of each Parks and Recreational Facilities element.

**Figure 10: Parks and Recreation Facilities Ratio of Service Unit to Development Unit**

#### *Residential (per unit)*

<i>Development Type</i>	<i>Persons per Household*</i>
Single-Family	3.10
Multi-Family	2.16
All Other Types	1.80

*\*TischlerBise Land Use Assumptions.*

## **PROJECTED DEMAND FOR SERVICES AND COSTS**

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ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

As shown in Figure 11, the Land Use Assumptions projects an additional 13,703 persons over the next ten years.

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

These projected service units are multiplied by the current levels of service for each IIP component shown in Figure 11. New development will demand an additional 32.1 acres of regional and community park improvements, 8.5 acres of neighborhood park improvements, and 1.8 miles of bike paths.

Based on the average cost per acre of \$163,100, the growth-related expenditure on regional and community park improvements is \$5.235 million (32.1 acres X \$163,100 = \$5,235,510), and the cost per person is \$382.07 (\$5,235,510 / 13,703 peak population increase). For neighborhood park improvements the growth-related expenditure totals \$340,000 (\$40,000 cost per acre X 8.5 acres), and the cost per person is \$24.81 (\$340,000 / 13,703 peak population increase). Based on the average cost per mile of \$475,000, the growth-related expenditure on bike paths is \$855,000 (1.8 miles X \$475,000), and the cost per person is \$62.40 (\$855,000 / 13,703 peak population increase).

**Figure 11: Projected Demand for Parks and Recreation Infrastructure**

<i>Type of Infrastructure</i>	<i>Level of Service</i>	<i>Demand Unit</i>	<i>Average Cost</i>
Regional & Community Parks	2.345 Dev. Acres	1,000 Persons	\$163,100
Neighborhood Parks	0.622 Dev. Acres	1,000 Persons	\$40,000
Bike Paths	0.132 Miles	1,000 Persons	\$475,000

<i>Need for Parks and Recreation Facilities</i>					
	<i>Year</i>	<i>Peak Population</i>	<i>Regional &amp; Community (Acres)</i>	<i>Neighborhood (Acres)</i>	<i>Bike Paths (Miles)</i>
Base	2018	115,208	270.2	71.7	15.2
Year 1	2019	116,505	273.2	72.5	15.4
Year 2	2020	117,815	276.3	73.3	15.6
Year 3	2021	119,142	279.4	74.1	15.7
Year 4	2022	120,488	282.5	74.9	15.9
Year 5	2023	121,848	285.7	75.8	16.1
Year 6	2024	123,227	289.0	76.6	16.3
Year 7	2025	124,622	292.2	77.5	16.5
Year 8	2026	126,033	295.5	78.4	16.6
Year 9	2027	127,464	298.9	79.3	16.8
Year 10	2028	128,911	302.3	80.2	17.0

<i>Ten-Yr Increase</i>	13,703	32.1	8.5	1.8
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Growth-Related Expenditures =>	\$5,235,510	\$340,000	\$855,000
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<b><i>Growth-Related Expenditure on Parks and Recreation Facilities</i></b>	<b>\$6,430,510</b>
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<i>per Person</i>	<b>\$382.07</b>	<b>\$24.81</b>	<b>\$62.40</b>
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## PARKS AND RECREATION FACILITIES DEVELOPMENT FEES

### Revenue Credit

A revenue credit is not necessary for parks and recreation facilities development fees.

Figure 12 provides a summary of the costs per demand unit used to calculate the parks and recreation development fees. As previously discussed, parks development fees are calculated for residential land uses. The total cost per residential demand unit is \$471.96. The proposed fee for a single-family unit is \$1,463 (\$471.96 X 3.10 persons per household) and represents an increase of \$452 compared to the current single-family fee.

**Figure 12: Schedule of Parks Development Fees**

<i>Fee Component</i>	<i>Cost per Person</i>
Regional & Community Park Improvements	\$382.07
Neighborhood Park Improvements	\$24.81
Bike Paths	\$62.40
Development Fee Study	\$2.68
TOTAL	\$471.96

#### *Residential (per unit)*

<i>Development Type</i>	<i>Persons per Household*</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Single-Family	3.10	\$1,463	\$1,011	\$452
Multi-Family	2.16	\$1,019	\$797	\$222
All Other Types	1.80	\$850	\$612	\$238

*\*TischlerBise Land Use Assumptions.*

## PROJECTED PARKS AND RECREATION FACILITIES DEVELOPMENT FEE REVENUE

Appendix A contains the forecast of revenues required by Arizona’s enabling legislation (ARS 9-463.05(E)(7)).

In accordance with state law, this report includes an IIP for park infrastructure needed to accommodate new development. Projected fee revenue shown in Figure 13 is based on the development projections in the *Land Use Assumptions* (Appendix A) and the updated development fees for parks and recreation. To the extent these assumptions change, the projected fee revenue will change correspondingly. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase and development fee revenue will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease, along with development fee revenue. Anticipated development fee revenue over the next ten years of \$6.45 million is approximately equal to the projected growth-related cost of parks and recreation facilities. Because this IIP includes only parks infrastructure demanded by future development, there is no cost to existing development.

**Figure 13: Projected Parks Development Fee Revenue**

### ***Infrastructure Cost for Parks and Recreation Facilities***

	Growth Cost	Total Cost
Regional & Community Parks	\$5,235,510	\$5,235,510
Neighborhood Parks	\$340,000	\$340,000
Bike Paths	\$855,000	\$855,000
Development Fee Study	\$17,800	\$17,800
<b>TOTAL</b>	<b>\$6,448,310</b>	<b>\$6,448,310</b>

### ***Parks and Recreation Facilities Development Fee Revenue***

		Residential \$1,288 per unit
Year		Households
Base	2018	38,593
Year 1	2019	39,068
Year 2	2020	39,548
Year 3	2021	40,034
Year 4	2022	40,527
Year 5	2023	41,025
Year 6	2024	41,530
Year 7	2025	42,041
Year 8	2026	42,558
Year 9	2027	43,082
Year 10	2028	43,612
<i>Ten-Yr Increase</i>		5,019
<b>Projected Revenue =&gt;</b>		<b>\$6,447,807</b>

## POLICE FACILITIES IIP

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Police Facilities IIP:

*“Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training police and firefighters from more than one station or substation.”*

The Police Facilities IIP includes components for police facilities, police vehicles, police equipment, the police share of fleet services, and the cost of professional services for preparing the Police Facilities IIP and Development Fees.

### Service Area

The service area for all police fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

### Proportionate Share

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Police Facilities IIP and Development Fees use calls for residential and nonresidential development in Yuma from October 2013 through September 2015 to allocate costs between residential and nonresidential development. As shown in Figure 14 below, 61 percent of the cost is allocated to residential development and 39 percent of the cost is allocated to nonresidential development.

**Figure 14: Proportionate Share**

<i>Development Type</i>	<i>Calls for Service</i>	<i>Share</i>
Residential	68,319	61%
Nonresidential	43,691	39%
	112,010	

Source: Yuma Police Department, October 2013 - September 2015.

The development fee for Police Facilities is calculated on a per capita basis for residential development. Nonresidential development fees are calculated using nonresidential vehicle trips as the service unit. TischlerBise recommends using nonresidential vehicle trips as the best demand indicator for police facilities and equipment. Trip generation rates are used for nonresidential development because vehicle trips are highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for police facilities from nonresidential development.

## **ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES**

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ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

### **Police Facilities – Incremental Expansion**

Police development fees contain a cost component for facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure 15, the Police Department currently uses 168,121 square feet.

**Figure 15: 2018 Police Facilities Inventory**

<i>Facility</i>	<i>Square Feet</i>
Police Station 1st Avenue	93,500
1st Avenue Parking Garage	46,000
Police Storage - Kayla	4,620
Police Storage - ALSCO	20,001
Araby Road Substation	4,000
TOTAL	168,121



## Level of Service

The current level of service is based on the residential and nonresidential shares of police calls for service and the 2018 demand units—peak population of 115,208 for residential development and nonresidential trips totaling 217,827 for nonresidential development. Therefore, the current residential level of service is 0.8902 square feet per person (168,121 X 61 percent residential share / 115,208 peak population), and the nonresidential level of service equals 0.3010 square feet per nonresidential trip (168,121 square feet X 39 percent nonresidential share / 217,827 nonresidential trips). Cost estimates for planned projects, shown below in Figure 16, total \$5.0 million and include 62,000 square feet with an average cost of \$81 per square foot (\$5.0 million / 62,000 square feet).

**Figure 16: Cost Allocation for Police Facilities**

### *Allocation Factors for Police Facilities*

2018 Peak Population	115,208
2018 Nonres. Trips	217,827
Existing Police Facility Square Feet	168,121
Residential Share	61%
Nonresidential Share	39%

### *Level-of-Service (LOS) Standards*

<b>LOS: Square Feet per Person</b>	<b>0.8902</b>
<b>LOS: Square Feet per Nonres. Trip</b>	<b>0.3010</b>

### *Cost Basis from Planned Projects*

<i>Project*</i>	<i>Square Feet*</i>	<i>Cost per SF</i>	<i>Total Cost*</i>
Storage Facility: Vehicle (Indoor)	50,000	\$70	\$3,500,000
Storage Facility: Evidence	8,000	\$100	\$800,000
Evidence Processing (Covered)	4,000	\$175	\$700,000
	62,000	\$81	\$5,000,000

### *Cost Allocation*

<b>Average Cost per Square Foot</b>	<b>\$81</b>
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\*Source: City of Yuma.

## Police Vehicles – Incremental Expansion

Development fees will be used to expand Yuma’s inventory of police vehicles. Figure 17 lists the current vehicles used by Yuma’s Police Department—169 vehicles representing a capital investment of approximately \$8.90 million. The average cost is approximately \$52,600 per vehicle (\$8,895,000 / 169 vehicles).

**Figure 17: 2018 Police Vehicles Inventory and Cost Allocation**

<i>Type</i>	<i>Units</i>	<i>Vehicle Cost</i>	<i>Total Cost</i>
Ford Utility Interceptors (Marked)	22	\$65,000	\$1,430,000
Ford Utility Interceptors (Unmarked)	8	\$55,000	\$440,000
Ford Crown Victoria (Marked)	40	\$60,000	\$2,400,000
Ford Crown Victoria (Unmarked)	27	\$55,000	\$1,485,000
Ford Fusion	4	\$30,000	\$120,000
Ford Taurus	9	\$25,000	\$225,000
Ford F150	2	\$50,000	\$100,000
Ford F250	7	\$55,000	\$385,000
Ford Escape	2	\$55,000	\$110,000
Ford Expeditions	5	\$65,000	\$325,000
Ford Ranger	1	\$30,000	\$30,000
Ford F550	1	\$250,000	\$250,000
Chevy Tahoe (Marked)	2	\$45,000	\$90,000
Chevy Tahoe (Unmarked)	2	\$45,000	\$90,000
Chevy Impala	17	\$30,000	\$510,000
Dodge Ram	1	\$40,000	\$40,000
Toyota Camry	5	\$35,000	\$175,000
Harley Davidson MC	12	\$30,000	\$360,000
Victory MC	1	\$30,000	\$30,000
Freightliner Command Van (HNT)	1	\$300,000	\$300,000
<b>TOTAL</b>	<b>169</b>	<b>\$52,600</b>	<b>\$8,895,000</b>

### **Allocation Factors for Police Vehicles**

Existing Vehicles	169
Cost per Unit	\$52,600
2018 Peak Population	115,208
2018 Nonres. Trips	217,827
Residential Share	61%
Nonresidential Share	39%

### **Level-of-Service (LOS) Standards**

<b>LOS: Units per Person</b>	<b>0.00090</b>
<b>LOS: Units per Nonres. Trip</b>	<b>0.00030</b>

## Level of Service

Non-traffic police calls for service are used to allocate the proportionate share of demand to residential and nonresidential development. Yuma’s existing infrastructure standard for residential development is 0.0009 vehicles per person (169 vehicles X 61 percent residential share / 115,208 peak population). The nonresidential infrastructure standard is 0.0003 vehicles per nonresidential trip (169 vehicles X 39 percent nonresidential share / 217,827 nonresidential vehicle trips).

## Police Equipment – Incremental Expansion

Development fees will be used to expand Yuma’s inventory of police equipment. Figure 18 lists the current equipment used by Yuma’s police department. Yuma currently has 12 units of police equipment representing a capital investment of approximately \$90,000. The weighted average cost is approximately \$7,500 per unit (\$90,000 / 12 units).

**Figure 18: 2018 Police Equipment Inventory and Cost Allocation**

Type	Units	Unit Cost	Total Cost
Wells Fargo Trailer	1	\$4,000	\$4,000
Hmd 19’	1	\$4,500	\$4,500
Carson	1	\$5,500	\$5,500
Wells Fargo Trailer 14’	1	\$5,500	\$5,500
Pace Am (Cargo Trailer)	1	\$4,000	\$4,000
Seat Belt Demo Trailer	1	\$13,000	\$13,000
Speed Awareness Trailer	1	\$7,000	\$7,000
Pace Box (Traffic Trailer)	1	\$4,500	\$4,500
Haulmark	1	\$4,500	\$4,500
Speed Awareness Trailer	1	\$7,000	\$7,000
Scissor Lift Trailer	1	\$27,500	\$27,500
Parker (Atv Trailer)	1	\$3,000	\$3,000
<b>TOTAL</b>	<b>12</b>	<b>\$7,500</b>	<b>\$90,000</b>

### Allocation Factors for Police Equipment

Existing Units	12
Cost per Unit	\$7,500
2018 Peak Population	115,208
2018 Nonres. Trips	217,827
Residential Share	61%
Nonresidential Share	39%

### Level-of-Service (LOS) Standards

<b>LOS: Units per Person</b>	<b>0.00006</b>
<b>LOS: Units per Nonres. Trip</b>	<b>0.00002</b>

## Level of Service

Police equipment costs are allocated according to non-traffic police calls for service—61 percent to residential development and 39 percent to nonresidential development. Yuma’s existing infrastructure standard for residential development is 0.00006 units per person based on the 2018 peak population of 115,208 (12 units X 61 percent residential share / 115,208 peak population). The nonresidential infrastructure standard, based on 2018 nonresidential trips of 217,827, is 0.00002 units per nonresidential trip (12 units X 39 percent nonresidential share / 217,827).

## Fleet Services – Incremental Expansion

To meet the proportionality requirement, development fees allocate capital costs to the Police Department and the Fire Department based on each department’s usage of the Fleet Services Facilities. According to the proportionate share analysis shown in Figure 19, the Police Department accounts for 28 percent of the demand for fleet services, and the Fire Department accounts for three percent of fleet services demand.

**Figure 19: Fleet Services Usage and Inventory**

### *Services Used*

	<b>Total Services</b>	<b>Police</b>	<b>Fire</b>
2013-14	3,479	977	105
2014-15	3,386	946	100
<b>TOTAL</b>	<b>6,865</b>	<b>1,923</b>	<b>205</b>

	<b>Square Feet</b>
Fleet Shop	14,195
Fleet Warehouse	7,457
<b>TOTAL</b>	<b>21,652</b>

### *Share of Services*

	<b>Police</b>	<b>Fire</b>
2013-14	28%	3%
2014-15	28%	3%
<b>SHARE</b>	<b>28%</b>	<b>3%</b>

### *Share of Fleet Services Square Footage*

	<b>Police</b>	<b>Fire</b>
Fleet Shop	3,975	426
Fleet Warehouse	2,088	224
<b>TOTAL SF</b>	<b>6,063</b>	<b>650</b>

## Existing Inventory

Police development fees contain a cost component for fleet services facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure PO10, existing fleet services facilities total 21,652 square feet. The Police Department’s proportionate share is 6,063 square feet (21,652 square feet X 28 percent share).

## Level of Service

The current level of service is based on the residential and nonresidential shares of police calls for service and the 2018 demand units—peak population of 115,208 for residential development and nonresidential trips totaling 217,827 for nonresidential development. Therefore, the current residential level of service is 0.0321 square feet per person (6,063 X 61 percent residential share / 115,208 peak population), and the nonresidential level of service equals 0.0109 square feet per nonresidential trip (6,063 square feet X 39 percent nonresidential share / 217,827 nonresidential trips). Cost estimates for the Fleet Services Facility, shown below in Figure 20, total approximately \$14.41 million for a 40,000-square-foot facility with an average cost of approximately \$360 per square foot (\$14,406,692 / 40,000 square feet).

**Figure 20: Cost Allocation for Fleet Services – Police Share**

**Existing Fleet Services Facilities (Police Share)**

<i>Facility</i>	<i>Square Feet</i>
Fleet Shop	3,975
Fleet Warehouse	2,088
<b>TOTAL</b>	<b>6,063</b>

**Allocation Factors for Fleet Services Facilities**

2018 Peak Population	115,208
2018 Nonres. Trips	217,827
Existing Square Feet	6,063
Residential Share	61%
Nonresidential Share	39%

**Level-of-Service (LOS) Standards**

<b>LOS: Square Feet per Person</b>	<b>0.0321</b>
<b>LOS: Square Feet per Nonres. Trip</b>	<b>0.0109</b>

**Cost Basis from Planned Projects**

<i>Project*</i>	<i>Square Feet*</i>	<i>Cost per SF</i>	<i>Total Cost*</i>
Fleet Services	40,000	\$360	\$14,406,692
<b>Average Cost per Square Foot</b>		<b>\$360</b>	

\*Source: City of Yuma.

**Development Fee Study – Plan Based**

The cost to prepare the Police Facilities IIP and development fees totals \$13,350. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per person is \$1.23 and the cost per nonresidential vehicle trip is \$0.29.

**Figure 21: IIP and Development Fee Report**

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>2018</i>	<i>2023</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks and Recreation	\$17,800	Residential	100%	Peak Population	115,208	121,848	6,640	\$2.68
Police	\$13,350	Residential	61%	Peak Population	115,208	121,848	6,640	\$1.23
		Nonresidential	39%	Nonres. Trips	217,827	235,828	18,001	\$0.29
Fire	\$13,350	Residential	45%	Peak Population	115,208	121,848	6,640	\$0.90
		Nonresidential	55%	Jobs	51,027	55,241	4,214	\$1.74
General Government	\$8,900	Residential	73%	Peak Population	115,208	121,848	6,640	\$0.98
		Nonresidential	27%	Jobs	51,027	55,241	4,214	\$0.57
Streets	\$35,600	Residential	100%	VMT	660,282	707,186	46,905	\$0.76
<b>TOTAL</b>								
	\$89,000							

## **RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT**

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ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial.”*

Figure 22 displays the ratio of a service unit to various types of land uses for residential and nonresidential development. The residential development table displays the persons per household for single-family units, multi-family units, and units in all other types of housing.

Nonresidential development fees are calculated using trips as the service unit. TischlerBise recommends using nonresidential vehicle trips as the best demand indicator for police facilities and equipment. Trip generation rates are used for nonresidential development because vehicle trips are highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for police from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, police development fees would be too high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, police development fees would be too high for industrial development.

Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (ITE 9th Edition 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50%.

For commercial development, the trip adjustment factor is less than 50% because retail development and some services attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicates that 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66% multiplied by 50%, or approximately 33% of the trip ends. These factors are shown to derive inbound vehicle trips for each type of nonresidential land use.

**Figure 22: Police Facilities Ratio of Service Unit to Development Unit**

***Residential (per unit)***

<b><i>Development Type</i></b>	<b><i>Persons per Household*</i></b>
Single-Family	3.10
Multi-Family	2.16
All Other Types	1.80

*\*TischlerBise Land Use Assumptions.*

***Nonresidential (per square foot)***

<b><i>Development Type</i></b>	<b><i>Avg Wkdy Veh Trip Ends(a)**</i></b>	<b><i>Trip Rate Adjustment (b)</i></b>	<b><i>Inbound Trips (a x b)</i></b>
Commercial/Retail	42.70	33%	14.09
Office/Institutional	11.03	50%	5.52
Industrial/Flex	6.97	50%	3.49
Hotel (per room)	5.63	50%	2.82

*\*\*Institute of Transportation Engineers, 2012.*

## PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES

ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

As shown in Figure 23, the Land Use Assumptions projects an additional 13,703 persons and 37,499 nonresidential vehicle trips over the next ten years.

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

## Police Facilities

Shown in Figure 23, peak population is projected to increase by 13,703 persons by 2028, and nonresidential vehicle trips will increase by 37,499 trips during the same period. When applied to the 2018 LOS, future development will demand 23,486 square feet of police facilities  $[(0.8902 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.3010 \text{ LOS} \times 37,499 \text{ nonresidential trip increase})]$ . Based on the average cost of \$81 per square foot, the growth-related expenditure on police facilities is \$1.90 million  $(23,486 \text{ square feet} \times \$81)$ . The cost per person is \$72.10  $(\$988,083 / 13,703 \text{ peak population increase})$ , and the cost per nonresidential vehicle trip is \$24.38  $(\$914,328 / 37,499 \text{ nonresidential vehicle trip increase})$ .

**Figure 23: Projected Demand for Police Facilities**

Type of Infrastructure	Level of Service		Demand Unit	Average Cost
Facilities	Residential	0.8902	per Person	\$81
	Nonresidential	0.3010	per Nonres. Trip	

Need for Police Facilities						
	Year	Peak Population	Nonres. Trips	Residential	Nonresidential	Total
Base	2018	115,208	217,827	102,554	65,567	168,121
Year 1	2019	116,505	221,313	103,708	66,617	170,325
Year 2	2020	117,815	224,857	104,874	67,683	172,558
Year 3	2021	119,142	228,451	106,056	68,765	174,821
Year 4	2022	120,488	232,111	107,254	69,867	177,121
Year 5	2023	121,848	235,828	108,464	70,986	179,450
Year 6	2024	123,227	239,599	109,692	72,121	181,813
Year 7	2025	124,622	243,438	110,934	73,276	184,210
Year 8	2026	126,033	247,332	112,190	74,448	186,638
Year 9	2027	127,464	251,296	113,464	75,642	189,105
Year 10	2028	128,911	255,326	114,752	76,855	191,607
Ten-Yr Increase		13,703	37,499	12,198	11,288	23,486

Growth-Related Expenditures => \$988,038 \$914,328 \$1,902,366

**Growth-Related Expenditure on Police Facilities** | **\$1,902,366**

**Cost per Unit** | **\$72.10** | **\$24.38**



## Police Vehicles

Shown in Figure 24, peak population is projected to increase by 13,703 persons by 2028, and nonresidential vehicle trips will increase by 37,499 trips during the same period. Future development will demand 28 additional police vehicles  $[(0.0009 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.0003 \text{ LOS} \times 37,499 \text{ nonresidential trip increase})]$ . The growth-related expenditure on police vehicles is \$1.25 million  $(23.8 \text{ vehicles} \times \$52,600 \text{ per vehicle})$  with a cost per person of \$47.60  $(\$652,240 / 13,703 \text{ peak population increase})$  and a cost per nonresidential vehicle trip of \$15.99  $(\$599,640 / 37,499 \text{ nonresidential vehicle increase})$ .

**Figure 24: Projected Demand for Police Vehicles**

Type of Infrastructure	Level of Service		Demand Unit	Average Cost
Vehicles	Residential	0.00090	per Person	\$52,600
	Nonresidential	0.00030	per Nonres. Trip	

	Need for Police Vehicles					
	Year	Peak Population	Nonres. Trips	Residential	Nonresidential	Total
Base	2018	115,208	217,827	103.0	66.0	169.0
Year 1	2019	116,505	221,313	104.3	67.1	171.4
Year 2	2020	117,815	224,857	105.4	68.1	173.5
Year 3	2021	119,142	228,451	106.6	69.2	175.8
Year 4	2022	120,488	232,111	107.8	70.3	178.1
Year 5	2023	121,848	235,828	109.1	71.5	180.6
Year 6	2024	123,227	239,599	110.3	72.6	182.9
Year 7	2025	124,622	243,438	111.5	73.8	185.3
Year 8	2026	126,033	247,332	112.8	74.9	187.7
Year 9	2027	127,464	251,296	114.1	76.1	190.2
Year 10	2028	128,911	255,326	115.4	77.4	192.8
Ten-Yr Increase		13,703	37,499	12.4	11.4	23.8

Growth-Related Expenditures => \$652,240 \$599,640 \$1,251,880

**Growth-Related Expenditure on Police Vehicles** | **\$1,251,880**

**Cost per Unit** | **\$47.60** | **\$15.99**

## Police Equipment

As shown in Figure 25, peak population and nonresidential trips drive the need for police equipment. Based on the development projections in the *Land Use Assumptions*, Yuma will need approximately 1.7 additional units of police equipment over the next ten years ( $[0.00006 \text{ LOS} \times 13,703] + [0.00002 \text{ LOS} \times 37,499]$ ). The ten-year, growth-related capital cost associated with these additional units of police equipment is \$12,750 ( $1.7 \text{ units} \times \$7,500$ ). Each additional person requires a capital cost of \$0.49 ( $\$6,750 / 13,703$ ). Similarly, each additional trip to nonresidential development requires a capital cost of \$0.16 ( $\$6,000 / 37,499$ ).

**Figure 25: Projected Demand for Police Equipment**

Type of Infrastructure	Level of Service		Demand Unit	Average Cost
Equipment	Residential	0.00006	per Person	\$7,500
	Nonresidential	0.00002	per Nonres. Trip	

	Need for Police Equipment					
	Year	Peak Population	Nonres. Trips	Residential	Nonresidential	Total
Base	2018	115,208	217,827	7.4	4.6	12.0
Year 1	2019	116,505	221,313	7.5	4.6	12.1
Year 2	2020	117,815	224,857	7.5	4.7	12.2
Year 3	2021	119,142	228,451	7.6	4.8	12.4
Year 4	2022	120,488	232,111	7.7	4.9	12.6
Year 5	2023	121,848	235,828	7.8	5.0	12.8
Year 6	2024	123,227	239,599	7.9	5.0	12.9
Year 7	2025	124,622	243,438	8.0	5.1	13.1
Year 8	2026	126,033	247,332	8.1	5.2	13.3
Year 9	2027	127,464	251,296	8.2	5.3	13.5
Year 10	2028	128,911	255,326	8.3	5.4	13.7
Ten-Yr Increase		13,703	37,499	0.9	0.8	1.7

Growth-Related Expenditures =>	\$6,750	\$6,000	\$12,750
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<b>Growth-Related Expenditure on Police Equipment</b>	<b>\$12,750</b>
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<b>Cost per Unit</b>	<b>\$0.49</b>	<b>\$0.16</b>
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## Police Fleet Services

Shown in Figure 26, peak population is projected to increase by 13,703 persons by 2028, and nonresidential vehicle trips will increase by 37,499 trips during the same period. When applied to the 2018 LOS, future development will demand 847 square feet of fleet services facilities  $[(0.0321 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.01086 \text{ LOS} \times 37,499 \text{ nonresidential trip increase})]$ . Based on the average cost of \$360 per square foot, the growth-related expenditure on fleet services facilities is \$304,920 (847 square feet  $\times$  \$360). The cost per person is \$11.56 (\$158,400 / 13,703 peak population increase), and the cost per nonresidential vehicle trip is \$3.91 (\$146,520 / 37,499 nonresidential vehicle increase).

**Figure 26: Projected Demand for Police Fleet Services**

Type of Infrastructure	Level of Service		Demand Unit	Average Cost
Fleet Services	Residential	0.03210	per Person	\$360
	Nonresidential	0.01086	per Nonres. Trip	

	Need for Police Fleet Services					
	Year	Peak Population	Nonres. Trips	Residential	Nonresidential	Total
Base	2018	115,208	217,827	3,698	2,365	6,063
Year 1	2019	116,505	221,313	3,740	2,402	6,142
Year 2	2020	117,815	224,857	3,782	2,441	6,223
Year 3	2021	119,142	228,451	3,825	2,480	6,305
Year 4	2022	120,488	232,111	3,868	2,520	6,388
Year 5	2023	121,848	235,828	3,912	2,560	6,472
Year 6	2024	123,227	239,599	3,956	2,601	6,557
Year 7	2025	124,622	243,438	4,001	2,643	6,644
Year 8	2026	126,033	247,332	4,046	2,685	6,731
Year 9	2027	127,464	251,296	4,092	2,728	6,820
Year 10	2028	128,911	255,326	4,138	2,772	6,910
Ten-Yr Increase		13,703	37,499	440	407	847

Growth-Related Expenditures =>	\$158,400	\$146,520	\$304,920
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<b>Growth-Related Expenditure on Police Fleet Services</b>	<b>\$304,920</b>
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<b>Cost per Unit</b>	<b>\$11.56</b>	<b>\$3.91</b>
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## POLICE FACILITIES DEVELOPMENT FEES

### Revenue Credit

A revenue credit is not necessary for Police Facilities Development Fees.

### Proposed Police Facilities Development Fees

Infrastructure standards and cost factors for police fees are summarized in the upper portion of Figure 27. Development fees for residential development are determined by type of housing unit. For example, the police fee for a dwelling in a multi-family structure is \$287 based on a cost factor of \$132.98 per person and an average of 2.16 persons per household.

Nonresidential development fees are stated per square foot of floor area or, for hotels, per room. The police fee of \$0.63 per square foot of commercial/retail development is derived from a capital cost of \$44.73 per nonresidential trip multiplied by 42.70 average weekday vehicle trip ends with a trip rate adjustment of 33 percent divided by 1,000 square feet.

**Figure 27: Schedule of Police Development Fees**

<i>Fee Component</i>	<i>Cost per Person</i>	<i>Cost per Nonres. Trip</i>
Police Facilities	\$72.10	\$24.38
Police Vehicles	\$47.60	\$15.99
Police Equipment	\$0.49	\$0.16
Fleet Services	\$11.56	\$3.91
Development Fee Study	\$1.23	\$0.29
<b>TOTAL</b>	<b>\$132.98</b>	<b>\$44.73</b>

#### *Residential (per unit)*

<i>Development Type</i>	<i>Persons per Household*</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Single-Family	3.10	\$412	\$506	(\$94)
Multi-Family	2.16	\$287	\$399	(\$112)
All Other Types	1.80	\$239	\$306	(\$67)

\*TischlerBise Land Use Assumptions.

#### *Nonresidential (per square foot)*

<i>Development Type</i>	<i>Avg Wkdy Veh Trip Ends**</i>	<i>Trip Rate Adjustment</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Commercial/Retail	42.70	33%	\$0.63	\$0.95	(\$0.32)
Office/Institutional	11.03	50%	\$0.25	\$0.47	(\$0.22)
Industrial/Flex	6.97	50%	\$0.16	\$0.30	(\$0.14)
Hotel (per room)	5.63	50%	\$126	\$239	(\$113)

\*\*Institute of Transportation Engineers, 2012.

## FORECAST OF REVENUES

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS 9-463.05(E)(7)).

### Projected Police Development Fee Revenue

Projected fee revenue shown in Figure 28 is based on the development projections in the *Land Use Assumptions* and the updated Police development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate.

Anticipated development fee revenue of approximately \$3.490 million over the next ten years is approximately equal to the projected growth-related cost of police facilities (\$3.497 million).

**Figure 28: Projected Revenue from Police Development Fees**

#### *Infrastructure Cost for Police Facilities*

	<b>Growth Cost</b>	<b>Total Cost</b>
Police Facilities	\$1,902,285	\$1,902,285
Police Vehicles	\$1,262,400	\$1,262,400
Police Equipment	\$15,000	\$15,000
Fleet Services	\$304,920	\$304,920
Development Fee Study	\$13,350	\$13,350
<b>TOTAL</b>	<b>\$3,497,955</b>	<b>\$3,497,955</b>

#### *Police Facilities Development Fee Revenue*

		<b>Residential</b>	<b>Commercial/ Retail</b>	<b>Office/ Institutional</b>	<b>Industrial/ Flex</b>
		<b>\$363 per unit</b>	<b>\$0.63 per SF</b>	<b>\$0.25 per SF</b>	<b>\$0.16 per SF</b>
<i>Year</i>		<i>Households</i>	<i>KSF</i>	<i>KSF</i>	<i>KSF</i>
Base	2018	38,593	12,485	5,148	3,878
Year 1	2019	39,068	12,685	5,230	3,940
Year 2	2020	39,548	12,888	5,314	4,003
Year 3	2021	40,034	13,094	5,399	4,067
Year 4	2022	40,527	13,304	5,485	4,132
Year 5	2023	41,025	13,517	5,573	4,198
Year 6	2024	41,530	13,733	5,662	4,266
Year 7	2025	42,041	13,953	5,753	4,334
Year 8	2026	42,558	14,176	5,845	4,404
Year 9	2027	43,082	14,403	5,939	4,475
Year 10	2028	43,612	14,634	6,034	4,547
<i>Ten-Yr Increase</i>		5,019	2,149	886	669
<b>Projected Revenue =&gt;</b>		<b>\$1,813,388</b>	<b>\$1,349,306</b>	<b>\$220,763</b>	<b>\$106,687</b>
<b>Total Projected Revenues =&gt;</b>		<b><u>\$3,490,144</u></b>			

## **FIRE FACILITIES IIP**

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Fire Facilities IIP:

*“Fire and police facilities, including all appurtenances, equipment and vehicles. Fire and police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training police and firefighters from more than one station or substation.”*

The Fire Facilities IIP and Development Fees includes components for fire facilities, fire apparatus, ambulances, fire fleet services, and the cost of professional services for preparing the Fire Facilities IIP and development fees.

### **Service Area**

The service area for all fire fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

### **Proportionate Share**

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The Fire Facilities IIP and development fees will allocate the cost of public services between residential and nonresidential based on calls to the Fire Department. Residential calls represent 45 percent of the calls for service and nonresidential calls were 55 percent.

**Figure 29: Fire Calls for Service**

<i>Development Type</i>	<i>Calls for Service</i>
Residential	45%
Nonresidential	55%

Source: Yuma Fire Department.

## **ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES**

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

### **Fire Facilities – Incremental Expansion**

Fire development fees contain a cost component for facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure 30, Fire Department facilities currently total 64,440 square feet.

**Figure 30: 2018 Fire Facilities Inventory**

<i>Station</i>	<i>Square Feet</i>
Fire Station #1	16,121
Fire Station #2	11,910
Fire Station #3	9,800
Fire Station #4	6,500
Fire Station #5	11,910
Fire Station #6	8,199
<b>TOTAL</b>	<b>64,440</b>

### Level of Service

The current level of service is based on the residential and nonresidential shares of fire calls for service and the 2018 demand units—peak population of 115,208 for residential development and jobs totaling 51,027 for nonresidential development. Therefore, the current residential level of service is 0.2517 square feet per person (64,440 X 45 percent residential share / 115,208 peak population), and the nonresidential level of service equals 0.6946 square feet per job (64,440 square feet X 55 percent nonresidential share / 51,027 jobs). Cost estimates for planned fire stations, shown below in Figure 31, total \$7.11 million and include 24,199 square feet with an average cost of \$294 per square foot (\$7,110,338 million / 24,199 square feet).

**Figure 31: Cost Allocation for Fire Facilities**

#### *Allocation Factors for Fire Facilities*

2018 Peak Population	115,208
2018 Jobs	51,027
Residential Share	45%
Nonresidential Share	55%

#### *Level-of-Service (LOS) Standards*

<b>LOS: Square Feet per Person</b>	<b>0.2517</b>
<b>LOS: Square Feet per Job</b>	<b>0.6946</b>

#### *Cost Basis from Planned Projects*

<i>Project*</i>	<i>Square Feet*</i>	<i>Cost per SF</i>	<i>Total Cost*</i>
Fire Station #7	8,199	\$318	\$2,610,338
Fire Station #8	16,000	\$281	\$4,500,000
	24,199	\$294	\$7,110,338

#### *Cost Analysis*

<b>Average Cost per Square Foot</b>	<b>\$294</b>
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\*Source: City of Yuma.

### Fire Apparatus – Incremental Expansion

Development fees will be used to expand Yuma’s inventory of fire apparatus. Figure 32 lists the current apparatus used by Yuma’s Fire Department—14 apparatus representing a capital investment of approximately \$10.15 million. The average cost is approximately \$725,000 per apparatus (\$10,150,000 / 14 apparatus).

**Figure 32: 2018 Fire Apparatus Inventory**

<i>Type</i>	<i>Unit Cost</i>	<i>Equipment Cost</i>	<i>Total Cost</i>
2009 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
1994 Pierce Arrow Platform 100'	\$1,000,000	\$125,000	\$1,125,000
2006 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2014 Pierce Arrow Platform 100'	\$1,000,000	\$125,000	\$1,125,000
2007 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2006 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2003 Pierce Quantum	\$650,000	\$125,000	\$775,000
1998 Pierce Quantum Telesqurt 50'	\$650,000	\$125,000	\$775,000
1995 Pierce Arrow	\$650,000	\$125,000	\$775,000
2016 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2016 Pierce Arrow Xt	\$650,000	\$125,000	\$775,000
2007 Pierce Contender (Water Tender)	\$350,000	\$125,000	\$475,000
2015 Ford F250 4x4 Crew Cab	\$100,000	\$125,000	\$225,000
2008 Ford F250 4x4 Extended Cab	\$100,000	\$125,000	\$225,000
<b>TOTAL</b>	<b>\$8,400,000</b>	<b>\$1,750,000</b>	<b>\$10,150,000</b>

### Level of Service

As previously discussed, non-traffic fire calls for service (Figure 29) are used to allocate the proportionate share of demand to residential and nonresidential development. Yuma's existing infrastructure standard for residential development is 0.000055 apparatus per person (based on the 2018 peak population of 115,208 (14 apparatus X 45 percent residential share / 115,208 peak population). The nonresidential infrastructure standard, based on 2018 jobs of 51,027, is 0.000151 apparatus per job (14 apparatus X 55 percent nonresidential share / 51,027).

**Figure 33: Cost Allocation for Fire Apparatus**

#### *Allocation Factors for Fire Apparatus*

Existing Apparatus	14
Cost per Unit	\$725,000
2018 Peak Population	115,208
2018 Jobs	51,027
Residential Share	45%
Nonresidential Share	55%

#### *Level-of-Service (LOS) Standards*

<b>LOS: Units per Person</b>	<b>0.000055</b>
<b>LOS: Units per Job</b>	<b>0.000151</b>

### Ambulances – Incremental Expansion

Yuma plans to use development fees to expand its inventory of ambulances. Figure 34 lists the current ambulances used by Yuma's Fire Department—9 ambulances representing a capital investment of approximately \$2.07 million. The average cost is approximately \$230,000 per ambulance (\$2,070,000 / 9 ambulances).



**Figure 34: 2018 Ambulance Inventory**

<i>Type</i>	<i>Unit Cost</i>	<i>Equipment Cost</i>	<i>Total Cost</i>
2012 Dodge North Star Ambulance	\$160,000	\$70,000	\$230,000
2008 Dodge Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2012 Dodge North Star Ambulance	\$160,000	\$70,000	\$230,000
2008 Dodge Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2015 Ford North Star Ambulance	\$160,000	\$70,000	\$230,000
2000 Ford Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2006 Ford Medtec Ambulance	\$160,000	\$70,000	\$230,000
2000 Ford Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
2001 Ford Wheeled Coach Ambulance	\$160,000	\$70,000	\$230,000
<b>TOTAL</b>	<b>\$1,440,000</b>	<b>\$630,000</b>	<b>\$2,070,000</b>

### Level of Service

As previously discussed, non-traffic fire calls for service (Figure 29) are used to allocate the proportionate share of demand to residential and nonresidential development. Yuma's existing infrastructure standard for residential development is 0.000035 ambulances per person (based on the 2018 peak population of 115,208 (9 ambulances X 45 percent residential share / 115,208 peak population). The nonresidential infrastructure standard, based on 2018 jobs of 51,027, is 0.000097 ambulances per job (9 ambulances X 55 percent nonresidential share / 51,027).

**Figure 35: Cost Allocation for Ambulances**

#### *Allocation Factors for Ambulances*

Existing Ambulances	9
Cost per Unit	\$230,000
2018 Peak Population	115,208
2018 Jobs	51,027
Residential Share	45%
Nonresidential Share	55%

#### *Level-of-Service (LOS) Standards*

<b>LOS: Units per Person</b>	<b>0.000035</b>
<b>LOS: Units per Job</b>	<b>0.000097</b>

## Fleet Services – Incremental Expansion

To meet the proportionality requirement, development fees allocate capital costs to the Police Department and the Fire Department based on each department's usage of the Fleet Services Facilities. According to the proportionate share analysis shown in Figure 36, the Police Department accounts for 28 percent of the demand for fleet services, and the Fire Department accounts for three percent of fleet services demand.

**Figure 36: Fleet Services Usage**

<i>Services Used</i>			
	<i>Total Services</i>	<i>Police</i>	<i>Fire</i>
2013-14	3,479	977	105
2014-15	3,386	946	100
TOTAL	6,865	1,923	205

<i>Share of Services</i>		
	<i>Police</i>	<i>Fire</i>
2013-14	28%	3%
2014-15	28%	3%
SHARE	28%	3%

## Existing Inventory

Fire development fees contain a cost component for fleet services facilities. Since facility square footage will be increased as demanded by development, an incremental expansion method is utilized. As shown in Figure 37, existing fleet services facilities total 21,652 square feet. The Fire Department's proportionate share is 650 square feet (21,652 square feet X three percent share).

**Figure 37: 2018 Fleet Services Inventory**

	<i>Square Feet</i>
Fleet Shop	14,195
Fleet Warehouse	7,457
	21,652

<i>Share of Fleet Services Square Footage</i>		
	<i>Police</i>	<i>Fire</i>
Fleet Shop	3,975	426
Fleet Warehouse	2,088	224
TOTAL SF	6,063	650

## Level of Service

The current level of service is based on the residential and nonresidential shares of non-traffic fire calls for service and the 2018 demand units—peak population of 115,208 for residential development and jobs totaling 51,027 for nonresidential development. Therefore, the current residential level of service is 0.0025 square feet per person (650 X 45 percent residential share / 115,208 peak population), and the nonresidential level of service equals 0.0070 square feet per job (650 square feet X 55 percent nonresidential share / 51,027). Cost estimates for the Fleet Services Facility, shown below in Figure 38, total approximately \$14.41 million for a 40,000-square-foot facility with an average cost of approximately \$360 per square foot (\$14,406,692 / 40,000 square feet).

Figure 38: Cost Allocation for Fleet Services – Fire Share

**Allocation Factors for Fleet Services Facilities**

2018 Peak Population	115,208
2018 Jobs	51,027
Existing Square Feet	650
Residential Share	45%
Nonresidential Share	55%

**Level-of-Service (LOS) Standards**

LOS: Square Feet per Person	0.0025
LOS: Square Feet per Job	0.0070

**Cost Basis from Planned Projects**

Project*	Square Feet*	Cost per SF	Total Cost*
Fleet Services	40,000	\$360	\$14,406,692

**Cost Analysis**

Average Cost per Square Foot	\$360
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\*Source: City of Yuma.

**IIP and Development Fee Report – Plan Based**

The cost to prepare the Fire IIP and development fees totals \$13,350. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per person is \$0.90 and per job is \$1.74.

Figure 39: IIP and Development Fee Report

Necessary Public Service	Cost	Assessed Against	Proportionate Share	Demand Unit	2018	2023	Change	Cost per Demand Unit
Parks and Recreation	\$17,800	Residential	100%	Peak Population	115,208	121,848	6,640	\$2.68
Police	\$13,350	Residential	61%	Peak Population	115,208	121,848	6,640	\$1.23
		Nonresidential	39%	Nonres. Trips	217,827	235,828	18,001	\$0.29
Fire	\$13,350	Residential	45%	Peak Population	115,208	121,848	6,640	\$0.90
		Nonresidential	55%	Jobs	51,027	55,241	4,214	\$1.74
General Government	\$8,900	Residential	73%	Peak Population	115,208	121,848	6,640	\$0.98
		Nonresidential	27%	Jobs	51,027	55,241	4,214	\$0.57
Streets	\$35,600	Residential Nonresidential	100%	VMT	660,282	707,186	46,905	\$0.76

TOTAL \$89,000

## **RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT**

---

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Figure 40 displays the ratio of a service unit to various types of land uses for residential and nonresidential development. The residential development table displays the persons per household for single-family units, multi-family units, and units in all other structures.

Nonresidential development fees are calculated using jobs as the service unit. The multiplier for each land use, which is employees per thousand square feet, is shown below.

**Figure 40: Fire Facilities Ratio of Service Unit to Development Unit**

***Residential (per unit)***

<b><i>Development Type</i></b>	<b><i>Persons per Household*</i></b>
Single-Family	3.10
Multi-Family	2.16
All Other Types	1.80

*\*TischlerBise Land Use Assumptions.*

***Nonresidential (per square foot)***

<b><i>Development Type</i></b>	<b><i>Jobs per 1,000 Sq Ft**</i></b>
Commercial/Retail	2.00
Office/Institutional	3.32
Industrial/Flex	2.31
Hotel (per room)	0.44

*\*\*Institute of Transportation Engineers, 2012.*

## **PROJECTED SERVICE UNITS AND PROJECTED DEMAND FOR SERVICES**

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ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

The Land Use Assumptions projects an additional 13,703 persons and 8,779 jobs over the next ten years, as shown in Figure 41.

ARS 9-463.05(E)(6) requires:

*“The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.”*

## Fire Facilities

Shown in Figure 41, peak population is projected to increase by 13,703 persons by 2028, and jobs are projected to increase by 8,779 jobs during the same period. When applied to the 2018 LOS, future development will demand 9,546 square feet of fire facilities  $[(0.2517 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.6946 \text{ LOS} \times 8,779 \text{ jobs increase})]$ . Based on the average cost of \$294 per square foot, the growth-related expenditure on fire facilities is \$2.80 million  $(9,546 \text{ square feet} \times \$294)$ . The cost per person is \$74.00  $(\$1,013,977 / 13,703 \text{ peak population increase})$ , and the cost per job is \$204.20  $(\$1,769,665 / 8,779 \text{ jobs increase})$ .

**Figure 41: Projected Demand for Fire Facilities**

Type of Infrastructure		Level of Service		Demand Unit		Average Cost
Facilities	Residential	0.2517	Square Feet	per Person		\$294
	Nonresidential	0.6946		per Job		

Need for Fire Facilities						
	Year	Peak Population	Jobs	Residential	Nonresidential	Total
Base	2018	115,208	51,027	28,998.0	35,442.0	64,440.0
Year 1	2019	116,505	51,843	29,324.3	36,008.6	65,332.9
Year 2	2020	117,815	52,673	29,654.0	36,585.1	66,239.1
Year 3	2021	119,142	53,515	29,988.0	37,169.9	67,157.9
Year 4	2022	120,488	54,372	30,326.8	37,765.2	68,092.0
Year 5	2023	121,848	55,241	30,669.1	38,368.7	69,037.8
Year 6	2024	123,227	56,125	31,016.2	38,982.7	69,998.9
Year 7	2025	124,622	57,023	31,367.4	39,606.5	70,973.9
Year 8	2026	126,033	57,936	31,722.5	40,240.6	71,963.1
Year 9	2027	127,464	58,863	32,082.7	40,884.5	72,967.2
Year 10	2028	128,911	59,806	32,446.9	41,539.5	73,986.4
Ten-Yr Increase		13,703	8,779	3,448.9	6,097.5	9,546.4
Growth-Related Expenditures =>				\$1,013,977	\$1,792,665	\$2,806,642
Growth-Related Expenditure on Fire Facilities						\$2,806,642
Cost per Unit		\$74.00		\$204.20		

## Fire Apparatus

Shown in Figure 42, peak population is projected to increase by 13,703 persons by 2028, and jobs are projected to increase by 8,779 during the same period. Using the 2018 LOS, future development will demand 2.07 additional apparatus  $[(0.00005 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.00015 \text{ LOS} \times 8,779 \text{ jobs increase})]$ . Based on the average cost of \$725,000 per apparatus, the growth-related expenditure on apparatus is \$1.50 million  $(1.7 \text{ apparatus} \times \$725,000)$ . The apparatus cost per person is \$39.58  $(\$543,750 / 13,703 \text{ peak population increase})$ , and the cost per job is \$109.01  $(\$957,000 / 8,779 \text{ jobs increase})$ .

**Figure 42: Projected Demand for Fire Apparatus**

Type of Infrastructure		Level of Service		Demand Unit	Average Cost
Apparatus	Residential	0.00005	Units	per Person	\$725,000
	Nonresidential	0.00015		per Job	

Need for Fire Apparatus						
	Year	Peak Population	Jobs	Residential	Nonresidential	Total
Base	2018	115,208	51,027	6.30	7.70	14.00
Year 1	2019	116,505	51,843	6.37	7.82	14.19
Year 2	2020	117,815	52,673	6.44	7.95	14.39
Year 3	2021	119,142	53,515	6.52	8.08	14.60
Year 4	2022	120,488	54,372	6.59	8.20	14.79
Year 5	2023	121,848	55,241	6.67	8.34	15.01
Year 6	2024	123,227	56,125	6.74	8.47	15.21
Year 7	2025	124,622	57,023	6.82	8.60	15.42
Year 8	2026	126,033	57,936	6.89	8.74	15.63
Year 9	2027	127,464	58,863	6.97	8.88	15.85
Year 10	2028	128,911	59,806	7.05	9.02	16.07
Ten-Yr Increase		13,703	8,779	0.75	1.32	2.07
Growth-Related Expenditures =>				\$543,750	\$957,000	\$1,500,750
Growth-Related Expenditure on Fire Apparatus						\$1,500,750
Cost per Unit		\$39.68	\$109.01			

## Ambulances

Shown in Figure 43, peak population is projected to increase by 13,703 persons by 2028, and jobs are projected to increase by 8,779 during the same period. Using the 2018 LOS, future development will demand 1.4 additional ambulances  $[(0.00004 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.00010 \text{ LOS} \times 8,779 \text{ jobs increase}) = 1.4 \text{ ambulances}]$ . Based on the average cost of \$230,000 per ambulance, the growth-related expenditure on ambulances is \$322,000  $(1.4 \text{ ambulances} \times \$230,000)$ . The ambulance cost per person is \$8.39  $(\$115,000 / 13,703 \text{ peak population increase})$ , and the cost per job is \$23.58  $(\$207,000 / 8,779 \text{ jobs increase})$ .

**Figure 43: Projected Demand for Ambulances**

Type of Infrastructure		Level of Service		Demand Unit	Average Cost
Ambulances	Residential	0.00004	Units	per Person	\$230,000
	Nonresidential	0.00010		per Job	

Need for Ambulances						
	Year	Peak Population	Jobs	Residential	Nonresidential	Total
Base	2018	115,208	51,027	4.05	4.95	9.00
Year 1	2019	116,505	51,843	4.09	5.03	9.12
Year 2	2020	117,815	52,673	4.14	5.11	9.25
Year 3	2021	119,142	53,515	4.19	5.19	9.38
Year 4	2022	120,488	54,372	4.23	5.27	9.50
Year 5	2023	121,848	55,241	4.28	5.36	9.64
Year 6	2024	123,227	56,125	4.33	5.44	9.77
Year 7	2025	124,622	57,023	4.38	5.53	9.91
Year 8	2026	126,033	57,936	4.43	5.62	10.05
Year 9	2027	127,464	58,863	4.48	5.71	10.19
Year 10	2028	128,911	59,806	4.53	5.80	10.33
Ten-Yr Increase		13,703	8,779	0.50	0.90	1.40
Growth-Related Expenditures =>				\$115,000	\$207,000	\$322,000
Growth-Related Expenditure on Ambulances						\$322,000
Cost per Unit		\$8.39	\$23.58			

## Fire Fleet Services

Shown in Figure 44, peak population is projected to increase by 13,703 persons by 2028, and jobs are projected to increase by 8,779 during the same period. When applied to the 2018 LOS, future development will demand approximately 96 square feet of fleet services facilities  $[(0.00254 \text{ LOS} \times 13,703 \text{ peak population increase}) + (0.00701 \text{ LOS} \times 8,779 \text{ jobs increase})]$ . Based on the average cost of \$360 per square foot, the growth-related expenditure on fleet services facilities is \$34,668 (96.3 square feet  $\times$  \$360). The cost per person is \$0.91 (\$12,528 / 13,703 peak population increase), and the cost per job is \$2.52 (\$22,140 / 8,779 jobs increase).

**Figure 44: Projected Demand for Fire Fleet Services**

Type of Infrastructure		Level of Service		Demand Unit	Average Cost
Fleet Services	Residential	0.00254	Square Feet	per Person	\$360
	Nonresidential	0.00701		per Job	

Need for Fire Fleet Services						
	Year	Peak Population	Jobs	Residential	Nonresidential	Total
Base	2018	115,208	51,027	292.5	357.5	650.0
Year 1	2019	116,505	51,843	295.8	363.2	659.0
Year 2	2020	117,815	52,673	299.1	369.0	668.1
Year 3	2021	119,142	53,515	302.5	374.9	677.4
Year 4	2022	120,488	54,372	305.9	380.9	686.8
Year 5	2023	121,848	55,241	309.4	387.0	696.4
Year 6	2024	123,227	56,125	312.9	393.2	706.1
Year 7	2025	124,622	57,023	316.4	399.5	715.9
Year 8	2026	126,033	57,936	320.0	405.9	725.9
Year 9	2027	127,464	58,863	323.6	412.4	736.0
Year 10	2028	128,911	59,806	327.3	419.0	746.3
Ten-Yr Increase		13,703	8,779	34.8	61.5	96.3
Growth-Related Expenditures =>				\$12,528	\$22,140	\$34,668
Growth-Related Expenditure on Fire Fleet Services						\$34,668
Cost per Unit		\$0.91	\$2.52			



## **FIRE FACILITIES DEVELOPMENT FEES**

### **Revenue Credit**

A revenue credit is not necessary for Fire Facilities development fees.

### **Proposed Fire Facilities Development Fees**

Infrastructure standards and cost factors for fire fees are summarized in the upper portion of Figure 45. The conversion of infrastructure costs per service unit into a cost per development unit is also shown in the table below. For residential development, the average number of persons per household provides the necessary conversion. Development fees for residential development are determined by type of housing unit. For example, the fee for a single-family unit is \$384 based on a cost factor of \$123.88 per person and an average of 3.10 persons per household.

Nonresidential development fees are stated per square foot of floor area or, for hotels, per room. The fire fee of \$0.79 per square foot of industrial development is derived from a capital cost of \$341.05 per job multiplied by 2.31 jobs per 1,000 square feet divided by 1,000 square feet.

**Figure 45: Schedule of Fire Development Fees**

<i>Fee Component</i>	<i>Cost per Person</i>	<i>Cost per Job</i>
Fire Facilities	\$74.00	\$204.20
Fire Apparatus	\$39.68	\$109.01
Fire Ambulances	\$8.39	\$23.58
Fleet Services	\$0.91	\$2.52
Development Fee Study	\$0.90	\$1.74
<b>TOTAL</b>	<b>\$123.88</b>	<b>\$341.05</b>

#### ***Residential (per unit)***

<i>Development Type</i>	<i>Persons per Household*</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Single-Family	3.10	<b>\$384</b>	\$339	\$45
Multi-Family	2.16	<b>\$268</b>	\$267	\$1
All Other Types	1.80	<b>\$223</b>	\$205	\$18

*\*TischlerBise Land Use Assumptions.*

#### ***Nonresidential (per square foot)***

<i>Development Type</i>	<i>Jobs per 1,000 Sq Ft**</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Commercial/Retail	2.00	<b>\$0.68</b>	\$0.15	\$0.53
Office/Institutional	3.32	<b>\$1.13</b>	\$0.26	\$0.87
Industrial/Flex	2.31	<b>\$0.79</b>	\$0.17	\$0.62
Hotel (per room)	0.44	<b>\$150</b>	\$33	\$117

*\*\*Institute of Transportation Engineers, 2012.*

## FORECAST OF REVENUES

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS 9-463.05(E)(7)).

### Projected Fire Development Fee Revenue

Projected fee revenue shown in Figure 46 is based on the development projections in the *Land Use Assumptions* and the updated Fire development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately \$4.67 million over the next ten years is approximately equal to the projected growth-related cost of fire infrastructure (\$4.67 million).

**Figure 46: Projected Fire Development Fee Revenue**

#### Infrastructure Cost for Fire Facilities

	<b>Growth Cost</b>	<b>Total Cost</b>
Fire Facilities	\$2,806,642	\$2,806,642
Fire Apparatus	\$1,500,750	\$1,500,750
Fire Ambulances	\$322,000	\$322,000
Fleet Services	\$34,668	\$34,668
Development Fee Study	\$13,350	\$13,350
<b>TOTAL</b>	<b>\$4,677,410</b>	<b>\$4,677,410</b>

#### Fire Facilities Development Fee Revenue

		<b>Residential</b>	<b>Commercial/ Retail</b>	<b>Office/ Institutional</b>	<b>Industrial/ Flex</b>
		<b>\$338 per unit</b>	<b>\$0.68 per SF</b>	<b>\$1.13 per SF</b>	<b>\$0.79 per SF</b>
<b>Year</b>		<b>Households</b>	<b>KSF</b>	<b>KSF</b>	<b>KSF</b>
Base	2018	38,593	12,485	5,148	3,878
Year 1	2019	39,068	12,685	5,230	3,940
Year 2	2020	39,548	12,888	5,314	4,003
Year 3	2021	40,034	13,094	5,399	4,067
Year 4	2022	40,527	13,304	5,485	4,132
Year 5	2023	41,025	13,517	5,573	4,198
Year 6	2024	41,530	13,733	5,662	4,266
Year 7	2025	42,041	13,953	5,753	4,334
Year 8	2026	42,558	14,176	5,845	4,404
Year 9	2027	43,082	14,403	5,939	4,475
Year 10	2028	43,612	14,634	6,034	4,547
<b>Ten-Yr Increase</b>		<b>5,019</b>	<b>2,149</b>	<b>886</b>	<b>669</b>
<b>Projected Revenue =&gt;</b>		<b>\$1,691,032</b>	<b>\$1,457,433</b>	<b>\$998,517</b>	<b>\$527,107</b>
<b>Total Projected Revenues =&gt;</b>		<b>\$4,674,089</b>			

## **GENERAL GOVERNMENT FACILITIES IIP**

ARS 9-463.05 ® defines the facilities and assets which can be included in the General Government Facilities IIP:

*“A municipality may continue to assess a development fee adopted before January 1, 2012 for any facility that was financed before June 1, 2011 if: (1) Development fees were pledged to repay debt service obligations related to the construction of the facility. (2) After August 1, 2014, any development fees collected under this subsection are used solely for the payment of principal and interest on the portion of the bonds, notes or other debt service obligations issued before June 1, 2011 to finance construction of the facility.”*

General government development fees are not one of the infrastructure categories allowed under Arizona law. However, facilities which have been debt financed can be included in the IIP and development fees. Since Yuma’s development fee for the repayment of City Hall debt was adopted before January 1, 2012 and the debt was issued before June 1, 2011, Yuma may continue to collect development fees to repay City Hall debt.

### **Service Area**

The service area for all general government fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

### **Proportionate Share**

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to accommodate new development. The General Government Facilities IIP and development fees will allocate the cost of public services between residential and nonresidential based on functional population.

For certain infrastructure facilities TischlerBise often uses “functional population” to establish the relative demand for infrastructure from both residential and nonresidential development. As shown in Figure 47, functional population accounts for people living and working in a jurisdiction. Residents who don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents who work in Yuma are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents who work outside Yuma are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2013 functional population data, the resulting proportionate share is 73 percent from residential development and 27 percent from nonresidential development.

**Figure 47: Functional Population**

	Demand Units in 2013	Demand Hours/Day	Person Hours	Proportionate Share
<b>Residential</b>				
Estimated Residents	95,423			
Residents Not Working	63,871	20	1,277,417	
Employed Residents	31,552			
Employed in Service Area	19,082	14	267,148	
Employed outside Service Area	12,470	14	174,580	
<b>Residential Subtotal</b>			<b>1,719,145</b>	<b>73%</b>
<b>Nonresidential</b>				
Non-working Residents	63,871	4	255,483	
Jobs in Service Area	39,120			
Residents Employed in Service Area	19,082	10	190,820	
Non-Resident Workers (inflow Commuters)	20,038	10	200,380	
<b>Nonresidential Subtotal</b>			<b>646,683</b>	<b>27%</b>
<b>TOTAL</b>			<b>2,365,828</b>	<b>100%</b>

Source: Arizona Department of Administration 2013 Population Estimate; U.S. Census Bureau, OnTheMap 6.1.1 Application, 2013.

## ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES

ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

ARS 9-463.05(E)(2) requires:

*“An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

### City Hall Debt Service – Cost Recovery

To provide capacity for new development, Yuma debt-financed the 2010 improvements to City Hall. This development fee will be used to cover new development’s share of City Hall debt service payments.

City Hall encompasses 150,000 square feet and was oversized to serve new development. Based on the current number of employees and average square feet per work station, Yuma’s Engineering Department estimates the facility is currently at 70 percent capacity. Using 2018 estimates of peak population and jobs from the *Land Use Assumptions* and the proportionate share allocation it is possible to determine how much additional development City Hall can serve before reaching capacity. Using residential development, the current estimate of peak population of 115,208 is divided by the current

capacity being utilized, which results in a total population at 100 percent capacity of 152,860 persons (115,208 peak population / 70 percent). Therefore, City Hall has capacity to serve an additional 37,652 persons (152,860 capacity – 115,208 peak population). This calculation is repeated for nonresidential development resulting in an additional 17,568 jobs to be served by City Hall.

Total debt service for City Hall, as shown in Figure 48, is approximately \$41.16 million. The debt was issued in 2010 and will be retired in 2025. Remaining capacity is used to distribute costs to all users. To derive the cost per service unit, 73 percent of the debt service is allocated to residential development and 27 percent is allocated to nonresidential development. The cost per person is \$196.56 (\$41,159,077 total debt X 73 percent residential share / 152,860 maximum capacity) and the cost per job is \$162.01 (\$41,159,077 total debt X 27 percent nonresidential share / 68,595 maximum capacity).

**Figure 48: Cost Allocation for City Hall**

Facility	Total Debt	Current Capacity*	Remaining Capacity	Type of Development	Currently Served	Maximum Capacity	Remaining Capacity
City Hall	\$41,159,077	75%	25%	Residential	115,208	152,860	37,652
				Nonresidential	51,027	68,595	17,568
				Cost Allocation			
				Residential (per person)		73%	\$196.56
				Nonresidential (per job)		27%	\$162.01

\* City of Yuma, Engineering Department.

## IIP and Development Fee Report – Plan Based

The cost to prepare the General Government IIP and development fees totals \$8,900. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per person is \$0.98 and per job is \$0.57.

**Figure 49: IIP and Development Fee Report**

Necessary Public Service	Cost	Assessed Against	Proportionate Share	Demand Unit	2018	2023	Change	Cost per Demand Unit
Parks and Recreation	\$17,800	Residential	100%	Peak Population	115,208	121,848	6,640	\$2.68
Police	\$13,350	Residential	61%	Peak Population	115,208	121,848	6,640	\$1.23
		Nonresidential	39%	Nonres. Trips	217,827	235,828	18,001	\$0.29
Fire	\$13,350	Residential	45%	Peak Population	115,208	121,848	6,640	\$0.90
		Nonresidential	55%	Jobs	51,027	55,241	4,214	\$1.74
General Government	\$8,900	Residential	73%	Peak Population	115,208	121,848	6,640	\$0.98
		Nonresidential	27%	Jobs	51,027	55,241	4,214	\$0.57
Streets	\$35,600	Residential	100%	VMT	660,282	707,186	46,905	\$0.76
TOTAL		\$89,000						

## RATIO OF SERVICE UNIT TO DEVELOPMENT UNIT

ARS 9-463.05(E)(4) requires:

*“A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an*

*equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”*

Figure 50 displays the ratio of a service unit to various types of land uses for residential and nonresidential development. The residential development table displays the persons per household for single-family units, multi-family units, and units in all other types of structures.

Nonresidential development fees are calculated using jobs as the service unit. The multiplier for each land use, which is employees per thousand square feet, is shown below.

**Figure 50: General Government Facilities Ratio of Service Unit to Development Unit**

***Residential (per unit)***

<b><i>Development Type</i></b>	<b><i>Persons per Household*</i></b>
Single-Family	3.10
Multi-Family	2.16
All Other Types	1.80

*\*TischlerBise Land Use Assumptions.*

***Nonresidential (per square foot)***

<b><i>Development Type</i></b>	<b><i>Jobs per 1,000 Sq Ft**</i></b>
Commercial/Retail	2.00
Office/Institutional	3.32
Industrial/Flex	2.31
Hotel (per room)	0.44

*\*\*Institute of Transportation Engineers, 2012.*

## GENERAL GOVERNMENT FACILITIES DEVELOPMENT FEES

### Revenue Credit

The debt service associated with City Hall is being paid through property and sales tax revenues. Thus, these contributions from new development should be used in the IIP to determine the extent of the burden imposed by new development. The figure below calculates a credit for future property and sales tax contributions that will be applied to the cost of serving new development. A net present value calculation is used to account for the value of future revenues in current dollars.

**Figure 51: Revenue Credit for City Hall**

Year	Principal	Interest	TOTAL	Residential Share	Peak Population	Credit per Person	Nonresidential Share	Jobs	Credit per Job
2015	\$1,465,000	\$1,057,331	\$2,522,331	\$1,841,302	106,641	<b>\$17.27</b>	\$681,029	48,654	<b>\$14.00</b>
2016	\$1,840,000	\$1,013,381	\$2,853,381	\$2,082,968	107,583	<b>\$19.36</b>	\$770,413	49,432	<b>\$15.59</b>
2017	\$1,910,000	\$939,781	\$2,849,781	\$2,080,340	108,656	<b>\$19.15</b>	\$769,441	50,223	<b>\$15.32</b>
2018	\$2,010,000	\$844,282	\$2,854,282	\$2,083,626	109,866	<b>\$18.97</b>	\$770,656	51,027	<b>\$15.10</b>
2019	\$2,110,000	\$743,781	\$2,853,781	\$2,083,260	111,218	<b>\$18.73</b>	\$770,521	51,843	<b>\$14.86</b>
2020	\$2,210,000	\$638,281	\$2,848,281	\$2,079,245	112,719	<b>\$18.45</b>	\$769,036	52,673	<b>\$14.60</b>
2021	\$2,305,000	\$549,881	\$2,854,881	\$2,084,063	114,479	<b>\$18.20</b>	\$770,818	53,515	<b>\$14.40</b>
2022	\$2,400,000	\$454,800	\$2,854,800	\$2,084,004	116,509	<b>\$17.89</b>	\$770,796	54,372	<b>\$14.18</b>
2023	\$2,500,000	\$352,800	\$2,852,800	\$2,082,544	118,822	<b>\$17.53</b>	\$770,256	55,241	<b>\$13.94</b>
2024	\$2,610,000	\$240,300	\$2,850,300	\$2,080,719	121,435	<b>\$17.13</b>	\$769,581	56,125	<b>\$13.71</b>
2025	\$2,730,000	\$122,850	\$2,852,850	\$2,082,581	124,208	<b>\$16.77</b>	\$770,270	57,023	<b>\$13.51</b>
<b>TOTAL</b>	<b>\$24,090,000</b>	<b>\$6,957,468</b>	<b>\$31,047,468</b>			<b>\$199.44</b>			<b>\$159.21</b>
						Discount Rate	4.00%		
						Credit	<b>\$159.39</b>		
						Discount Rate	4.00%		
						Credit	<b>\$127.29</b>		

### Proposed General Government Facilities Development Fees

Infrastructure standards and cost factors for general government fees are summarized in the upper portion of Figure 52. The conversion of infrastructure costs per service unit into a cost per development unit is also shown in the table below. For residential development, the average number of persons per household provides the necessary conversion. Development fees for residential development are determined by type of housing unit. For example, the fee for a single-family unit is \$152 based on a cost factor of \$49.8103 per person and an average of 3.10 persons per household.

Nonresidential development fees are stated per square foot of floor area or, for hotels, per room. The general government fee of \$0.10 per square foot of industrial development is derived from a capital cost of \$41.21 per job multiplied by 2.31 jobs per 1,000 square feet divided by 1,000 square feet.

**Figure 52: Schedule of General Government Development Fees**

<i>Fee Component</i>	<i>Cost per Person</i>	<i>Cost per Job</i>
City Hall Debt	\$196.56	\$162.01
City Hall Debt Credit	(\$148.44)	(\$121.37)
Development Fee Study	\$0.98	\$0.57
<b>TOTAL</b>	<b>\$49.10</b>	<b>\$41.21</b>

**Residential (per unit)**

<i>Development Type</i>	<i>Persons per Household*</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Single-Family	3.10	\$152	\$20	\$132
Multi-Family	2.16	\$106	\$15	\$91
All Other Types	1.80	\$88	\$12	\$76

\*TischlerBise Land Use Assumptions.

**Nonresidential (per square foot)**

<i>Development Type</i>	<i>Jobs per 1,000 Sq Ft**</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Commercial/Retail	2.00	\$0.08	\$0.01	\$0.07
Office/Institutional	3.32	\$0.14	\$0.02	\$0.12
Industrial/Flex	2.31	\$0.10	\$0.02	\$0.09
Hotel (per room)	0.44	\$18	\$3	\$15

\*\*Institute of Transportation Engineers, 2012.



## FORECAST OF REVENUES

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS 9-463.05(E)(7)).

### Projected General Government Facilities Development Fee Revenue

Projected fee revenue shown in Figure 53 is based on the development projections in the *Land Use Assumptions* and the updated general government development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate.

Anticipated development fee revenue of \$1.02 million over the next ten years is approximately equal to the projected growth-related cost of general government infrastructure (\$1.02 million). Yuma will need additional funding to support existing development's share of the remaining debt service.

**Figure 53: Projected General Government Development Fee Revenue**

#### Infrastructure Cost for General Government Facilities

	Growth Cost	Total Cost
City Hall Debt	\$4,115,747	\$22,821,975
City Hall Debt Credit	-\$3,099,658	-\$3,099,658
Development Fee Study	\$8,900	\$8,900
<b>TOTAL</b>	<b>\$1,024,989</b>	<b>\$19,731,217</b>

#### General Government Facilities Development Fee Revenue

		Residential \$134 per unit	Commercial/ Retail \$0.08 per SF	Office/ Institutional \$0.14 per SF	Industrial/ Flex \$0.10 per SF
Year		Households	KSF	KSF	KSF
Base	2015	38,593	12,485	5,148	3,878
Year 1	2016	39,068	12,685	5,230	3,940
Year 2	2017	39,548	12,888	5,314	4,003
Year 3	2018	40,034	13,094	5,399	4,067
Year 4	2019	40,527	13,304	5,485	4,132
Year 5	2020	41,025	13,517	5,573	4,198
Year 6	2021	41,530	13,733	5,662	4,266
Year 7	2022	42,041	13,953	5,753	4,334
Year 8	2023	42,558	14,176	5,845	4,404
Year 9	2024	43,082	14,403	5,939	4,475
Year 10	2025	43,612	14,634	6,034	4,547
Ten-Yr Increase		5,019	2,149	886	669
Projected Revenue =>		\$665,780	\$175,839	\$120,342	\$63,223
<b>Total Projected Revenues =&gt;</b>		<b>\$1,025,184</b>			

## STREET FACILITIES IIP

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Street Facilities IIP:

*“Street facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the municipality, traffic signals and rights-of-way and improvements thereon.”*

The Street Facilities IIP includes components for arterial streets, intersections, bike lanes, and the cost of professional services for preparing the Street Facilities IIP and Development Fees.

### Service Area

The service area for all street fees is the City of Yuma North Service Area—defined as all lands within the City of Yuma located north of and including 56th Street.

### Proportionate Share

ARS 9-463.05 (B)(3) states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to provide necessary public services to the development. Trip generation rates and trip adjustment factors are used to determine the proportionate impact of residential, commercial, office, and industrial land uses on Yuma’s street network.

## ANALYSIS OF CAPACITY, USAGE, AND COSTS OF EXISTING PUBLIC SERVICES

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ARS 9-463.05(E)(1) requires:

*“A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable.”*

The existing public services included in the Street Facilities IIP are lane miles of major and prime arterials, improved intersections, and bike lanes.

### Figure 54: Yuma Street Facilities Inventory

Arterial Lane Miles	204.7
Improved Intersections	28
Bike Lanes	12.4

### Arterials – Incremental Expansion

Based on 2018 vehicle miles of travel of 660,282 and 204.7 arterial lane miles, the existing level-of-service standard in Yuma is 3.1001 lane miles per 10,000 VMT ( $204.7 \text{ lane miles} / [660,282 \text{ VMT} / 10,000]$ ) and the planned level of service is 2.834 lane miles per 10,000 VMT ( $214.7 \text{ lane miles} / [757,516 \text{ VMT} / 10,000]$ ). Shown below in Figure 55, the average cost of approximately \$989,970 per arterial lane mile ( $\$46,004,013 / 46.47$ ) is based on projects from Yuma’s CIP.

**Figure 55: Existing Standards and Cost Allocations for Arterials**

***Allocation Factors for Arterials Improvements***

Arterial Lane Miles	204.7
2018 VMT	660,282

***Level-of-Service (LOS) Standards***

<b>LOS: Arterial Lane Miles per 10,000 VMT</b>	<b>3.1001</b>
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***Arterial Improvement Cost Factors***

<i>Eligible Projects</i>	<i>New Lane Miles*</i>	<i>Cost per Lane Mile</i>	<i>Total Cost*</i>
Avenue 9E - 28th Street to N. Frontage Rd	1.00	\$912,500	\$912,500
28th Street - 45th Avenue to Avenue C	1.00	\$912,500	\$912,500
40th Street - Avenue 3E to Avenue 6E	6.00	\$912,500	\$5,475,000
40th Street - Avenue 6 3/4E to Avenue 8E	5.00	\$912,500	\$4,562,500
40th Street - Avenue 8E to Avenue 10E	8.00	\$912,500	\$7,300,000
Avenue 3 1/2E - Avenue 3E to 48th Street	8.00	\$912,500	\$7,300,000
12th Street - Pacific Avenue to Avenue 3E	2.00	\$912,500	\$1,825,000
32nd Street - Avenue B to Avenue B 1/3	0.67	\$908,415	\$608,638
16th Street - C 1/2 (45th) to 46th Drive	0.50	\$912,500	\$456,250
Giss Parkway - WB Off-Ramp to 8th Street to Pacific Avenue to 12th Street	2.25	\$912,500	\$2,053,125
Avenue 9E - 24th Street to 28th Street	1.00	\$912,500	\$912,500
Avenue 10E - S. Frontage Road to 40th St	2.50	\$912,500	\$2,281,250
Avenue 10E - 40th Street to 48th Street	4.00	\$912,500	\$3,650,000
Avenue 10E - 48th Street to 56th Street	4.00	\$912,500	\$3,650,000
40th St & HWY 195 (Bridge Design)	0.23	\$8,647,826	\$1,989,000
48th St & HWY 195 (Bridge Design)	0.15	\$8,840,000	\$1,326,000
7E & B Canal (Bridge Design)	0.10	\$4,738,500	\$473,850
48th St & B Canal (Bridge Design)	0.07	\$4,512,857	\$315,900
<b>TOTAL</b>	<b>46.47</b>	<b>\$989,970</b>	<b>\$46,004,013</b>

***Cost Analysis***

<b>Average Cost per Lane Mile</b>	<b>\$989,970</b>
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\*Yuma Engineering Department.

## Signalized Intersections – Incremental Expansion

Similar to arterials, level-of-service standards for signalized intersections also use vehicle miles of travel. Yuma’s streets infrastructure includes 28 signalized intersections, and when allocated per 10,000 VMT, the level of service is 0.424 signalized intersections per 10,000 VMT. City staff identified 16 eligible intersection improvement projects from the most recent CIP to determine an average cost per signalized intersection of approximately \$638,750 (\$10,220,000 / 16).

**Figure 56: Existing Standards for Signalized Intersections**

### *Allocation Factors for Signalized Intersections*

Signalized Intersections	28
2018 VMT	660,282

### *Level-of-Service (LOS) Standards*

<b>LOS: Sig. Intersections per 10,000 VMT</b>	<b>0.4240</b>
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### *Intersection Improvement Cost Factors*

<i>Eligible Projects</i>	<i>Total Cost*</i>
18th Street & Avenue C	\$370,000
32nd Street & Big Curve	\$600,000
Giss Parkway & 2nd Ave Roundabout	\$450,000
2nd Ave & Orange Ave Roundabout	\$300,000
24th Street & Avenue B	\$3,400,000
24th Street & Avenue C	\$90,000
32nd Street & Avenue B	\$910,000
32nd Street & Pacific Avenue	\$930,000
16th Street & Pacific Avenue	\$350,000
Avenue B & 16th Street	\$350,000
24th Street & Arizona Avenue	\$580,000
24th Street & 1st Avenue	\$730,000
32nd Street & Avenue 7E	\$200,000
32nd Street & Avenue 5E	\$400,000
32nd Street & Avenue 8E	\$200,000
32nd Street & Arizona Avenue	\$360,000

TOTAL \$10,220,000

### *Cost Analysis*

<b>Average Cost per Intersection</b>	<b>\$638,750</b>
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\*Yuma Engineering Department.

## Bike Lanes – Incremental Expansion

The City of Yuma Transportation Master Plan identifies the need for bike lanes. To ensure new development pays for only its share of improvements, an incremental expansion methodology is used

for this component. Figure 57 lists the 2018 inventory of bike lanes, located within a street right-of-way, at 12.4 miles.

Bike lanes are allocated per 10,000 VMT for residential and nonresidential development. Based on the 2018 VMT of 660,282, the existing level of service is 0.1878 miles per 10,000 VMT (12.4 miles / [660,282 / 10,000]). The weighted average cost is approximately \$175,000 per mile (\$5,761,000 / 32.92 miles). This cost is based on 14 eligible bike lane projects included in the fiscal year 2014-2015 CIP.

**Figure 57: Existing Standards Bike Lanes**

***Allocation Factors for Bike Lanes***

Bike Lane Miles	12.4
2018 VMT	660,282

***Level-of-Service (LOS) Standards***

<b>LOS: Miles of Bike Lanes per 10,000 VMT</b>	<b>0.1878</b>
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***Bike Lane Improvement Cost Factors***

<i>Eligible Projects</i>	<i>New Bike Lane Miles*</i>	<i>Cost per Bike Lane Mile</i>	<i>Total Cost*</i>
Avenue 9E - 28th Street to N. Frontage Rd	1.00	\$175,000	\$175,000
28th Street - 45th Avenue to Avenue C	1.00	\$175,000	\$175,000
40th Street - Avenue 3E to Avenue 6E	6.00	\$175,000	\$1,050,000
40th Street - Avenue 6 3/4E to Avenue 8E	2.50	\$175,000	\$437,500
40th Street - Avenue 8E to Avenue 10E	4.00	\$175,000	\$700,000
Avenue 3 1/2E - Avenue 3E to 48th Street	6.00	\$175,000	\$1,050,000
12th Street - Pacific Avenue to Avenue 3E	2.00	\$175,000	\$350,000
32nd Street - Avenue B to Avenue B 1/3	0.67	\$175,000	\$117,250
16th Street - C 1/2 (45th) to 46th Drive	0.50	\$175,000	\$87,500
Giss Pkwy - WB Off-Ramp to 8th Street to Pacific Avenue to 12th Street	2.25	\$175,000	\$393,750
Avenue 9E - 24th Street to 28th Street	1.00	\$175,000	\$175,000
Avenue 10E - S. Frontage Road to 40th St	2.00	\$175,000	\$350,000
Avenue 10E - 40th Street to 48th Street	2.00	\$175,000	\$350,000
Avenue 10E - 48th Street to 56th Street	2.00	\$175,000	\$350,000
<b>TOTAL</b>	<b>32.92</b>	<b>\$175,000</b>	<b>\$5,761,000</b>

***Cost Analysis***

<b>Average Cost per Mile: Bike Lanes</b>	<b>\$175,000</b>
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\*Yuma Engineering Department.

**Bridges – Plan Based**

The City of Yuma identified the need for bridges. To ensure new development pays for only its share of improvements, city staff analyzed existing conditions to determine growth shares for each planned project. Based on these estimates, the growth-related cost is \$3,216,544. Allocating the growth-related

cost to the projected increase in vehicle miles of travel results in a cost per VMT of \$33.08 (\$3,216,544 / 97,234).

**Figure 58: Allocation Factors for Planned Bridges**

**Allocation Factors for Planned Bridges**

10-Year VMT Increase 97,234

**Planned Bridge Cost Factors**

Eligible Projects	Total Cost*	Growth Share*	Growth Cost
45th Street (East Half)	\$490,880	37.9%	\$186,044
36th Street Bridge	\$1,400,000	63.8%	\$893,200
48th Street Bridge	\$1,480,000	63.8%	\$944,240
Avenue 7E and 40th Street Canal Box	\$1,870,000	63.8%	\$1,193,060
<b>TOTAL</b>	<b>\$5,240,880</b>	<b>61.4%</b>	<b>\$3,216,544</b>

**Cost Analysis**

<b>Cost per VMT</b>	<b>\$33.08</b>
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\*Yuma Engineering Department.

**IIP and Development Fee Report – Plan Based**

The cost to prepare the Streets IIP and development fees totals \$35,600. Yuma plans to update its report every five years. Based on this cost, proportionate share, and five-year projections of new residential and nonresidential development from the *Land Use Assumptions*, the cost per VMT is \$0.76.

**Figure 59: IIP and Development Fee Report**

Necessary Public Service	Cost	Assessed Against	Proportionate Share	Demand Unit	2018	2023	Change	Cost per Demand Unit
Parks and Recreation	\$17,800	Residential	100%	Peak Population	115,208	121,848	6,640	\$2.68
Police	\$13,350	Residential	61%	Peak Population	115,208	121,848	6,640	\$1.23
		Nonresidential	39%	Nonres. Trips	217,827	235,828	18,001	\$0.29
Fire	\$13,350	Residential	45%	Peak Population	115,208	121,848	6,640	\$0.90
		Nonresidential	55%	Jobs	51,027	55,241	4,214	\$1.74
General Government	\$8,900	Residential	73%	Peak Population	115,208	121,848	6,640	\$0.98
		Nonresidential	27%	Jobs	51,027	55,241	4,214	\$0.57
Streets	\$35,600	Residential Nonresidential	100%	VMT	660,282	707,186	46,905	\$0.76
<b>TOTAL</b>	<b>\$89,000</b>							

**LEVEL OF SERVICE AND RATIO OF SERVICE UNIT TO LAND USE**

**Service Units**

Yuma will use average weekday vehicle trip ends as the service units for documenting existing infrastructure standards and allocating the costs of future improvements. Components used to

determine the service units and input variables are discussed, including trip generation rates, adjustments for commuting patterns and pass-by trips, and trip length weighting factors.

### **Trip Rate Adjustments**

Yuma's streets development fees use average weekday trip generation rates from the reference book *Trip Generation* published by the Institute of Transportation Engineers (ITE 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate streets development fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further below, the development fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

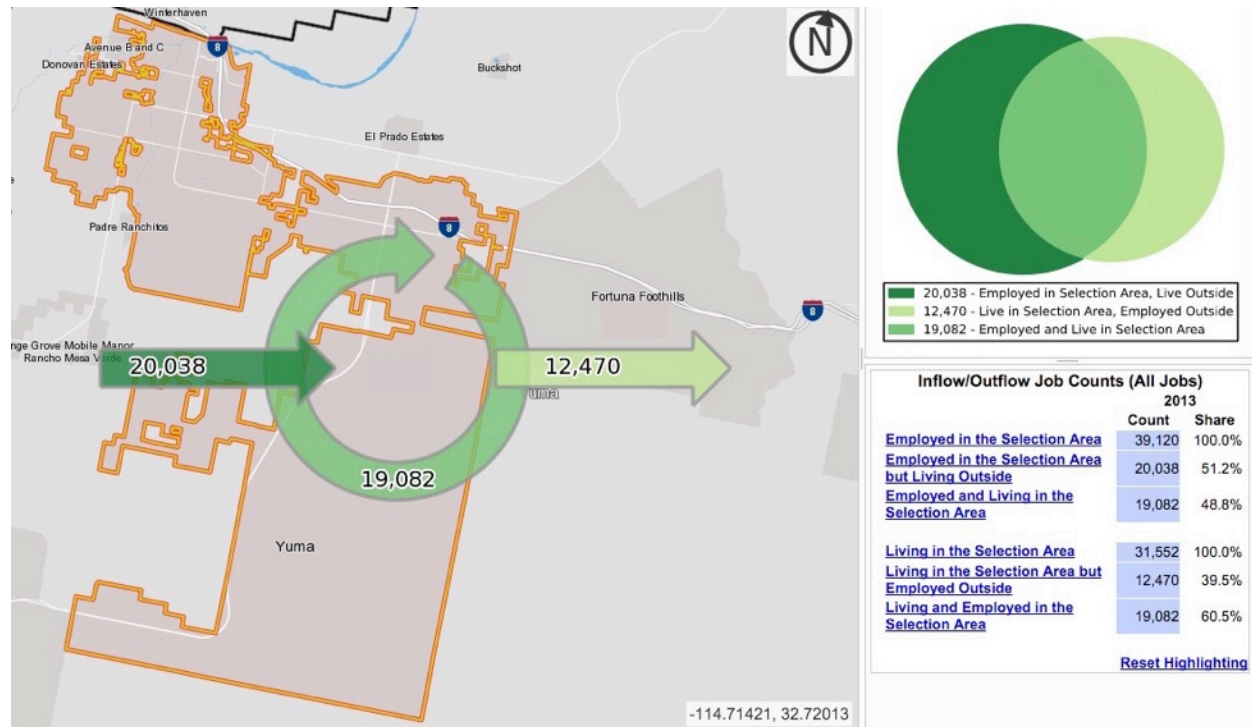
### ***Adjustment for Journey-To-Work Commuting***

Residential development has a larger trip adjustment factor of 56% to account for commuters leaving Yuma for work. According to the 2009 National Household Travel Survey, weekday work trips are typically 31 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure 60, the Census Bureau's web application OnTheMap<sup>1</sup> indicates that 39.5 percent of resident workers traveled outside Yuma for work in 2013. In combination, these factors ( $0.31 \times 0.50 \times 0.395 = 0.06$ ) support the additional six percent allocation of trips to residential development.

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<sup>1</sup> OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live and it describes geographic patterns of jobs by their employment locations and residential locations as well as the connections between the two locations. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

**Figure 60: Inflow/Outflow Analysis**



### **Adjustment for Pass-By Trips**

For commercial development, the trip adjustment factor is less than 50 percent because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

### **PROJECTED SERVICE UNITS, DEMAND, AND COSTS FOR SERVICES**

TischlerBise created an aggregate travel model to convert development units within Yuma to vehicle trips and vehicle miles of travel.

ARS 9-463.05(E)(5) requires:

*“The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.”*

### **Yuma Travel Demand**

The relationship between the amount of development in Yuma and growth-related system improvements is documented below. Figure 61 summarizes the input variables used to determine the average trip length on arterial improvements. In the table below HU means housing units, KSF means



square feet of nonresidential development, in thousands, Institute of Transportation Engineers is abbreviated ITE, VTE means vehicle trip ends, and VMT means vehicle miles of travel. Trip generation rates by type of housing unit are documented in the *Land Use Assumptions*.

Projected development in Yuma over the next ten years, and the corresponding need for additional lane miles, is shown in the middle section of Figure 61. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of development fees, to the following question, “What is the average vehicle trip length on development fee system improvements?”

A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of daily traffic on a roadway segment (vehicle trips) multiplied by the length of that segment. A lane mile is a rectangular area of pavement, one lane wide and one mile long. The segment length in this study reflects the “consumption” or utilization of the roadway system and is calibrated to the current and planned arterial network of lane miles and a lane capacity standard of 9,700 vehicles per lane.

Figure 61 shows the calibration of existing development to Yuma's current arterial network. Knowing the current arterial lane miles (204.7) TischlerBise determined the weighted-average miles per trip on the current arterial network is 5.532 miles.

The methodology is as follows:

- With an existing inventory of 204.7 lane miles of arterials and an average daily lane capacity standard of 9,700 vehicles per lane, the arterial network can accommodate 1,985,151 vehicle miles of travel (i.e., 9,700 vehicles per day traveling the entire 204.7 lane miles).
- To derive the average utilization (expressed in miles per trip) of the existing system improvements, we divide vehicle miles of travel by the aggregate number of vehicle trips associated with development in Yuma. Existing development in Yuma currently generates an estimated 393,157 vehicle trips on an average day. Based on 1,985,151 vehicle miles of travel that can be accommodated on the existing arterial network, and 393,157 average day vehicle trips, the average utilization of the arterial network is approximately 5.049 miles per trip.
- However, to be consistent with the methodology used in the development fee calculations, TischlerBise further refined the average utilization through a series of iterations using spreadsheet software. This refinement is necessary because the calibration of average utilization includes the same adjustment factors used in the development fee calculations (i.e., residential commuting adjustment, commercial pass-by adjustment, and average trip length adjustment by type of land use as discussed below). With these additional refinements, TischlerBise determined the average utilization on the arterial network to be 5.532 miles per trip, as shown in Figure 61.

**Figure 61: Yuma Travel Demand and Trip Length Calibration**

<i>Dev Type</i>	<i>ITE Code</i>	<i>Weekday VTE</i>	<i>Dev Unit</i>	<i>Trip Adj</i>	<i>Trip Length Wt Factor</i>
Single Family	210	9.41	HU	56%	121%
Multi-Family	220	7.07	HU	56%	121%
All Other Types of Housing	240	5.38	HU	56%	121%
Commercial/Retail	820	42.70	KSF	33%	66%
Office/Institutional	710	11.03	KSF	50%	73%
Industrial/Flex	110	6.97	KSF	50%	73%

Avg Trip Length (miles) 5.532

Vehicle Capacity Per Lane 9,700

	<i>Base</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>10</i>	<i>10-Year Increase</i>
	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2028</i>	
Single Family	22,770	23,050	23,333	23,620	23,911	24,205	25,731	2,961
Multi-Family	8,105	8,204	8,305	8,407	8,511	8,615	9,159	1,054
All Other Types of Housing	7,719	7,814	7,910	8,007	8,105	8,205	8,722	1,004
Commercial/Retail KSF	12,485	12,685	12,888	13,094	13,304	13,517	14,634	2,149
Office/Institutional KSF	5,148	5,230	5,314	5,399	5,485	5,573	6,034	886
Industrial/flex KSF	3,878	3,940	4,003	4,067	4,132	4,198	4,547	669
<i>Single Family Trips</i>	119,988	121,465	122,957	124,468	126,001	127,549	135,592	15,604
<i>Multi-Family Trips</i>	32,087	32,482	32,881	33,286	33,695	34,109	36,260	4,173
<i>All Other Types of Housing Trips</i>	23,255	23,541	23,830	24,123	24,420	24,720	26,279	3,024
<i>Commercial/Retail Trips</i>	175,919	178,737	181,598	184,501	187,460	190,461	206,201	30,282
<i>Office/Institutional Trips</i>	28,393	28,846	29,309	29,778	30,252	30,737	33,280	4,886
<i>Industrial/Flex Trips</i>	13,514	13,730	13,950	14,173	14,399	14,629	15,846	2,331
<b>Total Vehicle Trips</b>	<b>393,157</b>	<b>398,801</b>	<b>404,525</b>	<b>410,328</b>	<b>416,227</b>	<b>422,207</b>	<b>453,458</b>	<b>60,301</b>
<b>Vehicle Miles of Travel (VMT)</b>	<b>1,985,151</b>	<b>2,012,584</b>	<b>2,040,382</b>	<b>2,068,554</b>	<b>2,097,180</b>	<b>2,126,171</b>	<b>2,277,488</b>	<b>292,337</b>
ARTERIAL LANE MILES	204.7	207.5	210.3	213.3	216.2	219.2	234.8	30.1
SIGNALIZED INTERSECTIONS	28.0	28.4	28.8	29.2	29.6	30.0	32.1	4.1
BIKE LANES (MILES)	12.4	12.6	12.8	12.9	13.1	13.3	14.2	1.8
Ten-Year VMT Increase =>								<b>12.8%</b>

To maintain this level of service, Yuma needs to construct 30.1 lane miles over the next 10 years to serve growth. Development projections are multiplied by the input variables at the top of Figure 61 to yield average weekday travel demand on arterials in Yuma. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips, shown with light blue shading. For example, in 2018 the 22,770 single-family housing units produce 119,988 average weekday trips (22,770 single-family units X 9.41 average weekday vehicle trip ends X 56 percent trip adjustment). Similarly, office and institutional development in 2018 generates 28,393 average weekday vehicle trips (5,148 KSF X 11.03 average weekday vehicle trips per 1,000 square feet X 50 percent trip adjustment).

Although the travel demand model projects the need for 30.1 lane miles of arterials, Yuma plans to construct fewer lane miles during this period. Yuma's Capital Improvement Plan and subsequent analysis updating and refining projects from the plan identify **10.0 new lane miles needed through 2028**.

To ensure future development does not pay for a higher level of service than will be built and provided by Yuma, the travel demand factors are therefore calibrated to the amount of **planned arterial improvements**. This adjusts the input factors accordingly and is used to calculate the road improvement component of the impact fee. No adjustment is required for improved intersections or bike lanes as the current level of service will be maintained given the planned projects over the next ten years. Figure 62 provides the adjusted average utilization of 1.84 miles and adjusted vehicle miles of travel.

**Figure 62: Yuma Revised Travel Demand and Trip Length Calibration**

Type	Code	VTE	Unit	Adj	Wt Factor
Single Family	210	9.41	HU	56%	121%
Multi-Family	220	7.07	HU	56%	121%
All Other Types of Housing	240	5.38	HU	56%	121%
Commercial/Retail	820	42.70	KSF	33%	66%
Office/Institutional	710	11.03	KSF	50%	73%
Industrial/Flex	110	6.97	KSF	50%	73%

Avg Trip Length (miles)	1.840
Vehicle Capacity Per Lane	9,700

	Base	1	2	3	4	5	10	10-Year
	2018	2019	2020	2021	2022	2023	2028	Increase
Single Family	22,770	23,050	23,333	23,620	23,911	24,205	25,731	2,961
Multi-Family	8,105	8,204	8,305	8,407	8,511	8,615	9,159	1,054
All Other Types of Housing	7,719	7,814	7,910	8,007	8,105	8,205	8,722	1,004
Commercial/Retail KSF	12,485	12,685	12,888	13,094	13,304	13,517	14,634	2,149
Office/Institutional KSF	5,148	5,230	5,314	5,399	5,485	5,573	6,034	886
Industrial/flex KSF	3,878	3,940	4,003	4,067	4,132	4,198	4,547	669
Single Family Trips	119,988	121,465	122,957	124,468	126,001	127,549	135,592	15,604
Multi-Family Trips	32,087	32,482	32,881	33,286	33,695	34,109	36,260	4,173
All Other Types of Housing Trips	23,255	23,541	23,830	24,123	24,420	24,720	26,279	3,024
Commercial/Retail Trips	175,919	178,737	181,598	184,501	187,460	190,461	206,201	30,282
Office/Institutional Trips	28,393	28,846	29,309	29,778	30,252	30,737	33,280	4,886
Industrial/Flex Trips	13,514	13,730	13,950	14,173	14,399	14,629	15,846	2,331
Total Vehicle Trips	393,157	398,801	404,525	410,328	416,227	422,207	453,458	60,301
Vehicle Miles of Travel (VMT)	660,282	669,406	678,652	688,022	697,544	707,186	757,516	97,234
ARTERIAL LANE MILES	204.7	205.6	206.6	207.5	208.5	209.5	214.7	10.0
SIGNALIZED INTERSECTIONS	28.0	28.4	28.8	29.2	29.6	30.0	32.1	4.1
BIKE LANES (MILES)	12.4	12.6	12.7	12.9	13.1	13.3	14.2	1.8
Ten-Year VMT Increase =>								12.8%

The calibrated level-of-service standard, based on 10 additional lane miles, is 3.10 lane miles per 10,000 vehicle miles of travel (204.7 lane miles / [660,282 VMT / 10,000 VMT]), 0.42 signalized intersections per 10,000 VMT, and 0.19 miles of bike lanes per 10,000 VMT. By Year 10, the level of service will be 2.83 lane miles per 10,000 vehicle miles of travel, 0.42 improved intersections per 10,000 VMT, and 0.19 miles of bike lanes per 10,000 VMT.

## Projected Need

As shown in Figure 63, projected VMT drives the need for arterial improvements, improved intersections, and bike lanes. Over the next ten years, Yuma will need 30.1 additional lane miles of arterials to maintain the current level of service. Yuma staff, however, estimates the construction of 10.0 lane miles is likely during the study period at a cost of approximately \$9.9 million (10.0 lane miles X \$989,970 per lane mile). The cost per VMT for arterial improvements is \$101.81 (\$9,899,700 / 97,234).

Additionally, new development will demand 4.1 signalized intersections at a cost of approximately \$2.6 million (4.1 signalized intersections X \$638,750 per intersection), or \$26.93 per VMT (\$2,618,875 / 97,234). Finally, new development will demand an additional 1.8 miles of bike lanes over the next ten years. The total cost for bike lanes is \$315,000 (1.8 miles X \$175,000 per mile), or \$3.24 per VMT (\$315,000 / 97,234). In combination, Yuma anticipates capital costs of approximately \$12.83 million for growth-related street infrastructure over the next ten years.

**Figure 63: Growth-Related Need for Streets Infrastructure**

<i>Type of Infrastructure</i>	<i>Level of Service</i>	<i>Demand Unit</i>	<i>Average Cost</i>
Arterials	2.83 Lane Miles	per 10,000 VMT	\$989,970
Improved Intersections	0.42 Intersections	per 10,000 VMT	\$638,750
Bike Lanes	0.19 Miles	per 10,000 VMT	\$175,000

<i>Need for Streets Infrastructure</i>					
	<i>Year</i>	<i>VMT</i>	<i>Arterials (Lane Miles)</i>	<i>Improved Intersections</i>	<i>Bike Lanes (Miles)</i>
Base	2018	660,282	204.7	28.0	12.4
Year 1	2019	669,406	205.6	28.4	12.6
Year 2	2020	678,652	206.6	28.8	12.7
Year 3	2021	688,022	207.5	29.2	12.9
Year 4	2022	697,544	208.5	29.6	13.1
Year 5	2023	707,186	209.5	30.0	13.3
Year 6	2024	716,968	210.5	30.4	13.5
Year 7	2025	726,894	211.5	30.8	13.7
Year 8	2026	736,948	212.6	31.3	13.8
Year 9	2027	747,161	213.6	31.7	14.0
Year 10	2028	757,516	214.7	32.1	14.2
<i>Ten-Yr Increase</i>		97,234	10.0	4.1	1.8
Growth-Related Expenditures =>			\$9,899,700	\$2,618,875	\$315,000
<b>Total Growth-Related Expenditure on Streets Infrastructure</b>					<b>\$12,833,575</b>
		<b>Cost per VMT</b>	<b>\$101.81</b>	<b>\$26.93</b>	<b>\$3.24</b>

## STREET FACILITIES DEVELOPMENT FEES

### Revenue Credit

A revenue credit is not necessary for the Street Facilities development fees.

### Street Facilities Development Fees

Infrastructure standards and cost factors for Street Facilities development fees are summarized in the upper portion of Figure 64. Nonresidential development fees are stated per square foot of floor area or, for hotels, per room. The proposed Street fee per square foot of commercial development is \$1.98.

The input variables discussed above yield the proposed Development Fees shown in the lower section of Figure 53. For example, the Street Facilities development fees for a Single Unit house is \$1,945 (\$165.82 per VMT x 1.84 X 9.41 X 56 percent x 121 percent).

**Figure 64: Schedule of Streets Development Fees**

<i>Fee Component</i>	<i>Cost per VMT</i>
Arterial Improvements	\$101.81
Signalized Intersections	\$26.93
Bike Lanes	\$3.24
Bridges	\$33.08
Development Fee Study	\$0.76
<b>TOTAL</b>	<b>\$165.82</b>
Average Miles per Trip	1.840

#### *Residential (per unit)*

<i>Development Type</i>	<i>Avg Wkdy Veh Trip Ends*</i>	<i>Trip Rate Adjustment</i>	<i>Trip Length Adjustment</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Single-Family Unit	9.41	56%	121%	<b>\$1,945</b>	\$696	\$1,249
Multi-Family Unit	7.07	56%	121%	<b>\$1,462</b>	\$479	\$983
All Other Types	5.38	56%	121%	<b>\$1,112</b>	\$363	\$749

#### *Nonresidential (per square foot)*

<i>Development Type</i>	<i>Avg Wkdy Veh Trip Ends**</i>	<i>Trip Rate Adjustment</i>	<i>Trip Length Adjustment</i>	<i>Proposed Fees</i>	<i>Current Fee</i>	<i>Increase / Decrease</i>
Commercial/Retail	42.70	33%	66%	<b>\$2.83</b>	\$0.80	\$2.03
Office/Institutional	11.03	50%	73%	<b>\$1.22</b>	\$0.44	\$0.78
Industrial/Flex	6.97	50%	73%	<b>\$0.77</b>	\$0.28	\$0.49
Hotel (per room)	5.63	50%	73%	<b>\$627</b>	\$223	\$404

\*TischlerBise Land Use Assumptions.

\*\*Institute of Transportation Engineers, 2012.

## FORECAST OF REVENUES

Appendix A contains the forecast of revenues required by Arizona's enabling legislation (ARS 9-463.05(E)(7)).

### Projected Street Facilities Development Fee Revenue

Projected fee revenue shown in Figure 65 is based on the development projections in the *Land Use Assumptions* and the updated Street Facilities development fees. If development occurs at a faster rate than projected, the demand for infrastructure will increase along with development fee revenue. If development occurs at a slower rate than projected, the demand for infrastructure will decrease and development fee revenue will decrease at a similar rate. Anticipated development fee revenue of approximately \$16.06 million over the next ten years is approximately equal to the projected growth-related cost of street facilities (\$16.09 million). Yuma will need to fund existing development's share with other sources of revenue.

**Figure 65: Projected Streets Development Fee Revenue**

#### Infrastructure Cost for Street Facilities

	<b>Growth Cost</b>	<b>Total Cost</b>
Arterial Improvements	\$9,899,700	\$9,899,700
Signalized Intersections	\$2,618,875	\$2,618,875
Bike Lanes	\$315,000	\$315,000
Bridges	\$3,216,544	\$5,240,880
Development Fee Study	\$35,600	\$35,600
<b>TOTAL</b>	<b>\$16,085,719</b>	<b>\$18,110,055</b>

#### Streets Facilities Development Fee Revenue

		<b>Residential</b>	<b>Commercial/ Retail</b>	<b>Office/ Institutional</b>	<b>Industrial/ Flex</b>
		<b>\$1,677 per unit</b>	<b>\$2.83 per SF</b>	<b>\$1.22 per SF</b>	<b>\$0.77 per SF</b>
<b>Year</b>		<b>Households</b>	<b>KSF</b>	<b>KSF</b>	<b>KSF</b>
Base	2018	38,593	12,485	5,148	3,878
Year 1	2019	39,068	12,685	5,230	3,940
Year 2	2020	39,548	12,888	5,314	4,003
Year 3	2021	40,034	13,094	5,399	4,067
Year 4	2022	40,527	13,304	5,485	4,132
Year 5	2023	41,025	13,517	5,573	4,198
Year 6	2024	41,530	13,733	5,662	4,266
Year 7	2025	42,041	13,953	5,753	4,334
Year 8	2026	42,558	14,176	5,845	4,404
Year 9	2027	43,082	14,403	5,939	4,475
Year 10	2028	43,612	14,634	6,034	4,547
<b>Ten-Yr Increase</b>		<b>5,019</b>	<b>2,149</b>	<b>886</b>	<b>669</b>
<b>Projected Revenue =&gt;</b>		<b>\$8,396,825</b>	<b>\$6,067,143</b>	<b>\$1,078,325</b>	<b>\$513,888</b>
<b>Total Projected Revenues =&gt;</b>					<b>\$16,056,181</b>
<b>Total Expenditures =&gt;</b>					<b>\$18,110,055</b>
<b>Additional Funding Needed =&gt;</b>					<b>\$2,053,874</b>

## APPENDIX A: PROFESSIONAL SERVICES

As stated in Arizona’s development fee enabling legislation, “a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan” (see 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units, over five years (see Figure B1). Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as “a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience”.

**Figure A1: Cost of Professional Services**

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Assessed Against</i>	<i>Proportionate Share</i>	<i>Demand Unit</i>	<i>2018</i>	<i>2023</i>	<i>Change</i>	<i>Cost per Demand Unit</i>
Parks and Recreation	\$17,800	Residential	100%	Peak Population	115,208	121,848	6,640	\$2.68
Police	\$13,350	Residential	61%	Peak Population	115,208	121,848	6,640	\$1.23
		Nonresidential	39%	Nonres. Trips	217,827	235,828	18,001	\$0.29
Fire	\$13,350	Residential	45%	Peak Population	115,208	121,848	6,640	\$0.90
		Nonresidential	55%	Jobs	51,027	55,241	4,214	\$1.74
General Government	\$8,900	Residential	73%	Peak Population	115,208	121,848	6,640	\$0.98
		Nonresidential	27%	Jobs	51,027	55,241	4,214	\$0.57
Streets	\$35,600	Residential Nonresidential	100%	VMT	660,282	707,186	46,905	\$0.76

TOTAL \$89,000



## APPENDIX B: IMPLEMENTATION AND ADMINISTRATION

As specified in ARS 9-463.05, there are certain accounting requirements that must be met by the City:

*Monies received from development fees assessed pursuant to this section shall be placed in a separate fund and accounted for separately and may only be used for the purposes authorized by this section. Monies received from a development fee identified in an infrastructure improvements plan adopted or updated pursuant to subsection D of this section shall be used to provide the same category of necessary public services or facility expansions for which the development fee was assessed and for the benefit of the same service area, as defined in the infrastructure improvements plan, in which the development fee was assessed. Interest earned on monies in the separate fund shall be credited to the fund.*

All costs in the development fee calculations are given in current dollars with no assumed inflation rate over time. If cost estimates change significantly the City should update the fee calculations.

### RESIDENTIAL DEVELOPMENT

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As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. Yuma will collect development fees from all new residential units, including mobile homes and Recreational Vehicles (RV). For a parcel intended for occupancy by multiple mobile homes and/or RVs, the landowner will pay a development fee for each site than can accommodate a residential unit. One-time development fees are determined by site capacity (i.e. number of residential units) and will not be imposed on replacement units.

#### Single-Family:

1. Single-family detached is a 1-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
2. Single-family attached (townhouse) is a 1-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.

#### Multi-Family:

1. 2+ units (duplexes and apartments) are units in structures containing two or more housing units, further categorized as units in structures with “2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments.”

#### All Other Types:

1. Mobile home includes both occupied and vacant mobile homes, to which no permanent rooms have been added, are counted in this category. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

2. Boat, RV, Van, Etc. includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.

## NONRESIDENTIAL DEVELOPMENT

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The proposed general nonresidential development categories (defined below) can be used for all new construction within Yuma. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates and employment densities (i.e., jobs per thousand square feet of floor area).

**Commercial / Retail:** Establishments primarily selling merchandise, eating/drinking places, and entertainment uses. By way of example, *Commercial / Retail* includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, and movie theaters.

**Office / Institutional:** Establishments providing management, administrative, professional, or business services; personal and health care services; lodging facilities; and public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, *Office / Institutional* includes banks, business offices; hotels and motels; assisted living facilities, nursing homes, hospitals and medical offices; veterinarian clinics; and institutional facilities such as schools, universities, churches, daycare facilities, government buildings, and prisons.

**Industrial:** Establishments primarily engaged in the production, transportation, or storage of goods. By way of example, *Industrial* includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.